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Original Articles

IDIOPATHIC MYOCARDIAL HYPERTROPHY

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IDIOPATHIC myocardial hypertrophy is an unusual entity, characterized by cardiac enlargement and progressive cardiac failure in a previously healthy individual. Clinically, these patients exhibit a pattern characterized by palpitation, arrhythmias, peripheral embolization, sudden death or refractory congestive heart failure. The pathologic finding is invariably a marked hypertrophy of the left ventricle, with varying degrees of mural fibrosis and thrombosis, in the absence of coronary or valvular lesions. The disease affects mainly young adults. The course is usually rapid. There are no definite clinical or laboratory aids in the diagnosis. Since idiopathic myocardial hypertrophy is an entity that should be considered in the differential diagnosis of congestive heart failure of unexplained origin, it appears worthwhile to add another typical case to the 80 in the world literature.

CASE REPORT

A 33 year old, well-nourished, colored male was admitted to the Maricopa County General Hospital because of marked shortness of breath and swelling of the ankles. Three weeks previously he had noted a tight feeling in his chest, associated with cough and progressive dyspnea. Ten days prior to admission, swelling of both legs was noted.

Sixteen months previously, the patient had been admitted to the Phoenix Veterans Hospital because of severe chest pain and shortness of breath of two weeks' duration. The chest pain was aggravated by respiration. He had a cough productive of a blood-tinged sputum. Physical examination at that time revealed an acutely ill, dyspneic colored male, with temperature of 101.6, pulse 130, respirations 28, blood pressure 96 systolic and 76 diastolic, and weight 116 pounds. His maximum weight had been 140 pounds one year previously. He appeared toxic, orthopneic, but not cyanotic. There was dullness at the right base and left apex. Many moist rales were audible over these areas. The heart was not enlarged. No murmurs were heard. No thrills were palpated. The pulses were full, equal, synchronous and regular. X-rays of the chest revealed a pneumonic infiltration in the right middle and left upper lobes. The white blood count was 21,850 with 72 per cent neutrophiles, 13 per cent lymphocytes, and 2 per cent eosinophiles. Urinalysis revealed no abnormalities. He responded well to antibiotic therapy. At the end of the second day, his temperature became normal. After six days, his white blood count returned to normal. He was discharged from the Veterans Hospital after 20 days of hospitalization with a diagnosis of pneumonia, lobar, right middle, right lower, and left upper lobes, treated and cured.

His past history revealed no evidence of rheumatic or scarlet fever, hypertension, or syphilis.

Physical examination at the time of his first

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admission to the Maricopa County General Hospital revealed a well-developed, well-nourished, Negro male who was moderately dyspneic and orthopneic. His blood pressure was 98 systolic and 78 diastolic. The pulse was 120. The heart was enlarged to the left. A gallop rhythm was noted. A faint, soft systolic apical murmur was heard. The second pulmonic sound was accentuated. Moist rales were heard at the bases of both lung fields. The liver edge was palpated 6 cm. below the right subcostal margin.

Laboratory data: The hemogram and urinalysis were normal. The sedimentation rates was 9 mm. per hour. The ASO titre was 12 Todd units. Serologic test for syphilis was negative. Total protein was 6.4 gms. with a normal A/G ratio. Skin tests for tuberculosis and coccidioidomycosis were negative. Sputum examinations for acid-fast bacilli were also negative. Blood cultures revealed no growth. Serum cholesterol was 286 mgm. per cent. The serum protein bound iodine was 6.0. Two weeks after entry, the white blood count rose to 17,300, with a hemoglobin of 16.3 mgm., hematocrit of 55, and a differential count revealing segs 73, bands 1, basophile 1, lymphocytes 22, and monocytes 3. The erythrocyte sedimentation rate rose to 45 mm. per hour, and the ASO titre to 50 Todd units. One week later, the ESR was 18 mm. per hour, and the hemogram returned to normal. Fluoroscopy and x-rays with barium swallow revealed a diffuse cardiac enlargement. There was no evidence of a pericardial effusion. X-ray of the chest revealed a hazy linear patchy density in the right lower lobe, which was interpreted as representing a pneumonitis with a pleural effusion. Repeated electrocardiograms on several occasions were interpreted as abnormal with left ventricular hypertrophy, sinus tachycardia and nonspecific T wave changes.

Hospital course: The patient was at first treated for congestive heart failure. During the latter part of the second week, when his temperature rose to 103°, he was given antibiotics with a dramatic response. The patient was discharged after three weeks of hospitalization, with a probable diagnosis of acute myocarditis secondary to pulmonary infection.

Second admission: Three months later, he was readmitted because of increasing shortness of breath, pain over the left chest and ankle edema. The blood pressure was 90 systolic and 70 diastolic. The pulse was 96. The jugular veins were distended. The thyroid gland was normal. The heart on auscultation revealed a gallop rhythm and a faint systolic apical murmur. Basal rales were heard bilaterally. The liver edge was 6 cm. below the costal margin. Ascites was noted. A four-plus pitting edema of the legs was present.

Laboratory data: Urinalysis and routine blood counts were normal. The serum proteins by electrophoresis were interpreted as normal. LE cell preparations were all negative. X-ray of the chest revealed progressive pulmonary congestion with right pleural effusion. The heart was persistently enlarged with predominance to the left. Left ventricular hypertrophy and strain were interpreted in the serial electrocardiograms.

Further laboratory data during his second period of hospitalization: Transaminase 56 units. VDRL negative. Uric acid 6.7 mgm. per cent. Sedimentation rate 23 mm. C reactive protein positive. PBI 5.2. Cholesterol 275 mgm. Bilirubin direct 0.35 mgm., total 0.74 mgm. Hemoglobin determinations ranged between 14.6 and 16.7 gms. Electrophoretic studies of the serum proteins were normal. Prothrombin times were from 27 to 40 per cent of normal plasma concentration.

Hospital course: The patient remained in the hospital for two months. His condition deteriorated progressively with refractory congestive heart failure. During the latter part of his illness, therapy was supplemented with Prednisone and Prednisolone, but no benefit was observed. He became weaker and more dyspneic. One day before death, the blood pressure fell to levels which could not be determined. Levophed was given intravenously. He expired on the 57th hospital day.

The autopsy, performed by Dr. Thomas Jarvis, is reported as follows: "The body was that of a normally developed, normally nourished, Negro male appearing approximately the stated age of 33 years, 65 inches (166 cm.) in height, and weighing 165 pounds. The neck and thorax are symmetrical, and the abdomen distended and fluctuant. No cervical, axillary or inguinal lymphadenopathy is seen; extremities are within normal limits.

The thoracic cavity reveals a pleura which is moist, glistening, and appears somewhat thickened. Approximately 200 cu. cm. of fluid is seen in each pleural cavity, and there are edema-

tous adhesions obliterating the pleural cavity over the right lower and middle lobes, with fine fibrous adhesions scattered over the remainder of the right and over the entire left pleural cavity, easily broken. The pericardial cavity contains approximately 5 cu. cm. of clear fluid, the pericardium being moist, glistening, translucent and with a whitish surface.

Heart: The heart weighs 640 gms. The epicardial surface is smooth and of a light red-brown. The heart is grossly dilated, the right ventricle measure 3 mm. in thickness, and the left ventricle 15 mm. in thickness. In the left ventricle, there is a thrombus measuring 3 x 7 cm. and 1 cm. in thickness, firmly adherent to the ventricular wall and anterior surface of the septum.

Lungs: The right lung weighs 1100 gms., and the left 800 gms. Each lung is dark red, markedly congested with abundant fluid, easily expressed by pressure. The lungs are quite firm to palpation. The pleura is a mottled red and black, translucent and smooth. The vessels and bronchi show normal architecture with distention of the vessels. The bronchi are filled with frothy fluid.

Abdominal cavity: The peritoneum is moist, glistening, smooth and translucent with no adhesions. There is normal distribution of the abdominal organs and approximately two liters of clear yellow fluid are contained in the abdominal cavity.

Spleen: The spleen weighs 75 gms., shows red-blue surface and dark red cut surface, and a moderate amount of material is scraped away by the knife edge.

Adrenals: The adrenals measure approximately 2 x 3 x ½ cm., are in normal location, show good cortical medullary definition, and golden-yellow cortex with gray medulla.

Kidneys: The right kidney weighs 210 gms., and the left 190. The capsule shows no thickening and strips with ease, leaving a smooth red surface. The cut surface shows cortex 4 mm. in thickness, with good cortical medullary definition and no gross abnormality of calices, pelves, or ureters.

Liver: The liver weighs 1860 gms., is light brown, smooth, firm surface, and some blunting of the inferior margin. The cut surface is firm and of nutmeg color and pattern.

Microscopic:

Heart: Sections of the heart show a chronically inflamed and organizing endocardial thrombus. The myocardium itself shows evidence of hypertrophy due to alternating sizes of muscular fibers and large square nuclei. Otherwise the heart is not remarkable.

Lung: Sections of the lung show severe edema, generalized fibrosis, and focal emphysema with many heart failure cells in the alveoli with discreet acute and chronic bronchopneumonia.

Liver: Sections of the liver show a very severe central congestion with focal degeneration and necrosis.

Kidney: The kidney shows preservation of normal architecture, with fading of cellular markings, suggesting a recent infarction.

The remainder of the organs revealed no significant abnormalities.

Final anatomical diagnoses were as follows:

(1) Myocardial hypertrophy (650 gms.)
(2) Cardiac dilatation, marked.
(3) Anasarca, marked.
(4) Adhesions of pleura, right lower lobe of lung.
(5) Renal infarct, recent.
(6) Endocardial mural thrombus, left ventricle.

DISCUSSION

The world literature revealing some 80 reports of patients that satisfy the criteria for a diagnosis of idiopathic myocardial hypertrophy has been recently reviewed by Spodick and Littman(4). This curious entity was first described in 1901 by Josserand(1). Since then, it has remained an enigma to the clinician and pathologist as well (2, 3, 4). Excluded from this discussion of idiopathic myocardial hypertrophy is any case which shows evidence of a significant pre-existing hypertension, advanced coronary arteriosclerosis, lues, rheumatic fever, aortic regurgitation, glycogen-storage disease, myocardial fibrosis, aortic hyperplasia, beri-beri heart disease, thyrotoxic heart disease, amyloid disease and definite evidence of subendocardial fibrosis.

It is, of course, easier to describe idiopathic myocardial hypertrophy in terms of what it is not, than in its clearly defined positive manifestations. Idiopathic myocardial hypertrophy usually affects the younger age group. Most of the cases occur between the 3rd and 4th decades of life. Close to 90 per cent of those affected occurred under the age of 50. Another fairly typical aspect of the disease is its clinical course.

This is characterized by its intractibility. Congestive heart failure is usually associated with such complications as pulmonary embolism, or an arrhythmia. The progress of the disease once initiated is inevitably progressively downhill, ending in a fatal termination. About half of the patients survive less than a year from the onset, and about two-thirds are dead within two years of the time of onset. Postmortem examination inevitably discloses a large heart, weighing anywhere from 400 gms. to 900 gms. Over 90 per cent of the hearts available for weighing were in excess of 500 gms. Most fell into the range of 450 to 650 gms. The single striking pathological finding was myocardial hypertrophy principally of the left ventricle. There is no evidence of valvular disease or coronary artery disease. The disease seems to have predilection for males. The figures reported from the United States indicate almost 30 per cent of the cases occurring in Negroes. Most of the cases reported, where the occupation was determined, were manual laborers.

There is no definite clear-cut clinical picture in idiopathic myocardial hypertrophy to differentiate it from other cardiac entities which it may simulate, such as coronary heart disease, pericarditis, myocarditis, or any of the other specific etiologic entities mentioned previously. Dyspnea is the most common complaint. Other symptoms are palpitation, chest pain, cough, swelling of the ankles, and right upper quadrant distress, all evidence of congestive heart failure.

Laboratory determinations are not helpful in delineating this entity. X-rays and fluoroscopic examinations of the chest reveal generalized cardiac enlargement, particularly left ventricular hypertrophy. Electrocardiographic patterns, although abnormal, are not specifically diagnostic. Electrocardiographic changes reveal nonspecific T wave abnormalities, delayed ventricular conduction defects, such as left bundle branch block, intraventricular block; arrhythmias are not uncommon, such as supraventricular paroxysmal tachycardia, auricular fibrillation and flutter, auricular tachycardia, and paroxysmal ventricular tachycaria. Evidence of left ventricular hyptertrophy or strain is quite common on electrocardiographs. Nonspecific T wave changes and left bundle branch block are the most common abnormalities noted. It is interesting that right bundle branch block thus far has not been reported.

The vast majority of cases reveal a systolic blood pressure of 120 mm. mercury or less, and a diastolic pressure between 75 and 90. The pulse pressure is usually small, as was noted in our case. Absence of retinopathy and changes in the renal arterioles are features in all cases. Over half of the cases reveal either clinical or pathological evidence of embolization. The high incidence of pulmonary and systemic embolization is related to the constant finding at postmortem of mural thrombi affecting either the left ventricle or both ventricles. This feature too was noted in our case.

The physical findings of patients with idiopathic myocardial hypertrophy are those of marked enlargement of the heart, usually to the left, associated with evidence of congestive heart failure. Our patient revealed a soft apical murmur. This has been observed in the majority of cases(8). Other murmurs, such as apical diastolic rumble and systolic blow, diastolic murmurs, presystolic rumble and loud mid-diastolic apical murmurs have been described(4). Precordial pain and palpitation are not infrequent complaints. Arrhythmias are common. Although the most common clinical course is that of progressive refractory congestive heart failure, sudden death at any time may occur. Sudden death may be due to either pulmonary embolism or to a ventricular arrhythmia.

The most common pathologic observation was that showing endocardial and mural thromboses with varying degrees of mural and interstitial fibrosis. In about half the cases, there is subendocardial fibrosis with or without mural thrombi. Thomas and his associates(5) in their study of many of the same cases of cardiac hyptertrophy emphasize endocardial fibro-elastosis as the etiologic factor. They arbitrarily divide the 20 cases of heart disease of obscure etiology, which they studied, with the pathological finding of endocardial fibro-elastosis, into three age groups, (1) infantile, under 2 years of age; (2) childhood, 2 to 16 years of age; and (3) adult, over 16 years of age. They propose a congenital etiology for the adult group, in spite of the lack of specificity of fibro-elastosis and the time lag between birth and the onset of symptoms because the hearts are morphologically identical with those in the earlier age groups.

Pathologic physiology: A great number of

theories have been advanced for the mechanism of cardiac hypertrophy. Thomas(5) proposes the following possible explanation: (1) The thickened endocardium interferes with proper contraction and relaxation of the heart in much the same way as a thickened pericardium does in constrictive pericarditis. The clinical resemblance to constrictive pericarditis is sometimes very striking. However, instead of revealing a small left-sided chamber, as described in infants, most cases reveal chambers that are markedly dilated. (2) That the thickened endocardium interferes in some way with the proper conduction of contraction impulses. This would explain why many cases reveal various arrhythmias or delayed conduction defects or both. However, this cannot be definitely substantiated, at this time. (3) The thickened endocardium interferes with blood supply to the underlying muscle. The presence of myocardial fibrosis in some cases supports this theory. However, the absence of fibrosis in others suggests that this is not the only factor. Another theory (6, 7) is that hypoxia and intraventricular stasis following decompensation result in subendocardial necrosis, producing endocardial thrombi and thebesian vein thrombosis. The latter is thought to precede and account for the foci in mural and subendocardial fibrosis. These changes initiate a vicious cycle(4).

The antemortem diagnosis of idiopathic myocardial hypertrophy is a difficult matter, and is usually made by exclusion of all known etiologic forms of heart disease. Various murmurs, anginal pain, arrhythmias, and other electrocardiographic abnormalities may lead the clinician to diagnose valvular or coronary heart disease. The association or precedence of a febrile state in some cases leads to the diagnosis of myocarditis of some form. The most common antemortem diagnoses that have been made, as in our case, are those of rheumatic heart disease, myocarditis, arteriosclerotic heart disease, myocardial infarction, beri-beri heart disease, constrictive pericarditis, pericardial effusion, amyloid, neoplastic, and glycogen-storage disease.

Idiopathic hypertrophy of the right heart, a disease mainly seen in females and associated principally with right heart failure, cyanosis, pulmonary hypertension and electrocardiographic evidence of right ventricular strain, with or without right atrial enlargement and right bundle branch block, is not to be confused with idiopathic myocardial hypertrophy. Metabolic and nutritional disturbances, such as glycogen-storage disease, thiamine deficiency, potassium deficient diets, East African endomyocardial necrosis, collagen disease, and South African cardiovascular collagenosis, are not factors in the etiology of this entity.

SUMMARY

A report of a case satisfying the criteria of idiopathic myocardial hypertrophy in a 33 year old Negro is described. This curious disturbance of the heart most commonly affects young adult males in the third and fourth decades of life, with a predisposition for the Negro race, and is characterized by left ventricular hypertrophy, an accelerated clinical course of progressive refactory congestive heart failure in previously healthy individuals. The characteristic pathologic findings, in addition to left ventricular hypertrophy, are mural thrombi and fibrosis. Coronary artery disease and valvular lesions are notably absent. Sudden death may occur due to either embolism, which is a frequent occurrence related to the necropsy finding of mural and endocardial thrombi, or due to ventricular arrhythmia. The etiology of idiopathic myocardial hyptertrophy is unknown. There are no characteristic clinical or laboratory findings.

Idiopathic myocardial hypertrophy should be considered in the differential diagnosis of all cases of refractory congestive heart failure, particularly in young adults.

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RECENT ADVANCES IN THE TREATMENT OF THE LEUKEMIAS AND LYMPHOMAS

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IN RECENT YEARS, most of the papers appearing in medical journals on the subject of treatment of the leukemias and lymphomas have dealt with the results of therapy with various new chemotherapeutic agents. This has tended to create the impression that radiation therapy is old-fashioned if not actually obsolete. A critical analysis of the published data fails to support such an impression. There is little evidence that any of the new chemotherapeutic agents will produce more complete or more prolonged remissions than can be achieved with radiation therapy in most cases of Hodgkin's disease, lymphosarcoma, chronic lymphocytic leukemia and probably in chronic myelocytic leukemia. Radiation therapy is the basic form of treatment which should be tried first in the majority of cases of malignant lymphoma.

It is only in the management of the acute leukemias that various new chemotherapeutic agents are unequivocally superior to radiation therapy. These words of caution should not be interpreted to mean that we do not use nitrogen mustard, triethylene melamine, Myleran and other agents. These forms of therapy are extremely valuable under certain conditions, but their role in the management of patients with malignant blood dyscrasias to the exclusion of radiation remains to be defined.

X-ray therapy can be given in the form of small doses of general body spray irradiation, or larger doses of x-ray can be directed to specific areas involved by the disease. There can be no doubt but that local x-ray therapy is the most effective method of destroying the diseased tissue in massively enlarged lymph nodes, spleen, or liver in the malignant lymphomas and chronic leukemias. If a single node or mass of nodes in, for example, the neck or one axilla is the only demonstrable area of involvement by the disease and the patient has no systemic symptoms, local x-ray therapy is clearly the treatment of choice. Even when several areas are involved, local x-ray therapy to each mass of nodes is the most effective method of shrinking the nodes and relieving the patient's symptoms.

Radioactive phosphorus therapy has proved to be quite effective in the treatment of the chronic leukemias. The rationale of this treatment is based on the fact that when radioactive phosphorus is injected intravenously or is given by mouth, the isotope is selectively deposited in the bone marrow and a high percentage of the radioactive element is incorporated into the phosphorus-containing nucleoprotein material of new cells in the bone marrow, as they are formed by cell division. One can thus achieve a certain amount of selective irradiation of the bone marrow with relatively little irradiation of normal tissue not infiltrated with leukemic cells. During the last five years, as the newer chemotherapeutic agents have come into wide use, the percentage of patients with chronic leukemia treated with radioactive phosphorus has decreased considerably, but there is at present no convincing evidence that the long term results with these chemotherapeutic agents will be significantly better than has been obtained in the past with radioactive phosphorus. Such comparative studies are in progress.

Role of Nitrogen Mustard

Historically speaking, the first group of chemotherapeutic drugs which proved to be of real value in the control of the malignant blood dyscrasias were the nitrogen mustards. These drugs have been found to exert a specific nucleotoxic action by interfering with chromosome mechanisms and mitotic division in a manner somewhat analogous to the effect of x-rays. The susceptibility of cells to the lethal effects of the mustards is related in general to the rate of cellular multiplication, and presumably this explains, at least in part, the vulnerability of the bone marrow, the lymphatic tissues, and the mucosa of the gastrointestinal tract.

The toxic effects of nitrogen mustard include immediate gastrointestinal effects and delayed depression of bone marrow function. The nausea and vomiting which come on from 30 minutes

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to one hour after the drug is administered is apparently due to a central effect of the drug on the vomiting center in the brain. The delayed marrow depression with resultant leukopenia and thrombocytopenia reaches a maximum approximately three weeks after administration of the drug.

Nitrogen mustard is now used primarily in the treatment of Hodgkin's disease and lymphosarcoma. Indications for such treatment include those cases which have become "x-ray fast," patients in whom repeated courses of x-ray therapy to a single area have produced severe trophic skin changes verging on necrosis which preclude further external radiation therapy, and the management of those fairly numerous patients who have disseminated Hodgkin's disease with weakness, fatigue, anorexia, fever without massive localized lymph node enlargement, and frequently, leukocytosis and anemia. The clinical response of such patients to mustard therapy is often dramatic, but the beneficial effects tend to be of briefer duration than the remissions which can be induced with radiation therapy in the more localized forms of the disease.

Several hundred compounds chemically related to nitrogen mustard have been prepared and screened for therapeutic effectiveness. Nitrogen mustard undergoes a very rapid ethylenimonium transformation in the body, with the almost immediate release of the active moiety of the compound. In contrast to this, with such drugs as triethylene melamine and triethylene phosphoramide, a very much slower chemical reaction occurs and the active moiety is released very gradually over a considerable period of time. As a result of this, some of these compounds can be given by mouth and the drug is then absorbed into the blood stream before significant release of the active moiety occurs. TEM thus has the advantage that it can be given orally and it causes less severe nausea and vomiting than nitrogen mustard. TEM is used mainly in the treatment of Hodgkin's disease, and lymphosarcoma, although some hematologists have used this drug widely in the management of chronic lymphocytic leukemia. In our experience, the results of therapy with TEM have not been as consistently good as with nitrogen mustard, and the depressant effect of this drug on the bone marrow is just as great, although it appears at a later date.

Three compounds are available which have some beneficial effect in chronic myelocytic leukemia. These compounds are Urethane, Demecolcin, and Myleran. Myleran is a sufonic acid ester and appears to be the most effective agent. It is available in 2 mg. tablets and the usual starting dose is 6-8 mgms. a day by mouth. Within 10 days, the leukocyte count usually begins to fall, and within three or four weeks the count may be restored to normal. The dosage must be decreased as treatment is continued. Excessive doses cause marrow hypoplasia and cytopenia. The chief advantages of Myleran are its ease of administration and its inexpensiveness.

Myleran and Chlorambucil

Myleran produces excellent remissions in chronic myelocytic leukemia, and many hematologists feel that this drug is the treatment of choice in this type of leukemia. The immediate results of Myleran therapy on chronic myelocytic leukemia are roughly comparable to those which can be accomplished with radiation therapy, but many years of careful follow-up study of large numbers of patients treated with Myleran will be necessary before the complications of such therapy and the effect on the duration of life can be evaluated and its proper role assessed.

Chlorambucil (CB 1348), or Leukeran, is another chemotherapeutic agent which appears to have significant value in the treatment of malignant blood dyscrasias, particularly chronic lymphocytic leukemia. This drug was developed during the course of a large scale investigation of a large number of nitrogen mustard derivatives in the aromatic series. These aromatic mustards are alkylating agents, and it was discovered that those compounds in this series which are biologically active induced, to a marked degree, the cytologic changes which are recognized as characteristic of the nitrogen mustards, such as chromosome "breakage," gross disorientation in the mechanics of mitrosis, and, not infrequently, great increase in cell size.

One may make an interesting comparison of the effect of x-irradiation, Myleran and chlorambucil on the peripheral blood. Whereas x-ray depresses the lymphocytes, neutrophiles and red blood cells, Myleran has relatively little influence on the lymphocytes and about the same effect as x-ray on the granulocytes. On the other

hand, chlorambucil has only a transient effect on the neutrophiles and influences the lymphocytes in an almost identical fashion as x-ray; if you superimpose the effects of these two drugs, the result simulates that of ionizing irradiation.

Our present experience with chlorambucil indicates that this drug will induce remissions in a high percentage of patients with chronic lymphocytic leukemia; its relatively selective "lympholytic" effect minimizes its usefulness in myelocytic leukemia.

During the last 30 years, there has been considerable progress in making patients with acute leukemia more comfortable, although the survival time is still distressingly short. Up until 1948, the improvement in prognosis was due to the greater use of blood transfusions and the increasing availability of antibiotics. Since then there has been some further progress due to the introduction of ACTH, cortisone, and other related steroids, and such "antimetabolites" as 6-mercaptopurine and the folic acid antagonists.

The most recent evidence suggests that the folic acid antagonists, which are chemically closely related to, but not identical with, folic acid, act by blocking the conversion of folic acid to folinic acid. Apparently white blood cells, and particularly leukemic leukocytes, are more dependent on folinic acid for their metabolism and multiplication than are most other cells of the body, and thus their growth is selectively inhibited. It is important to remember, however, that the folic acid antagonists block an essential enzyme system, and other normal cells are definitely damaged. These drugs are very toxic, including such effects as stomatitis, diarrhea, gastrointestinal hemorrhage, and severe pancytopenia.

The folic acid antagonists produce remissions in a much higher percentage of cases of acute leukemia occurring in infants and children than in adults. Remissions, when they occur, are distressingly short in duration, usually lasting from a few weeks to several months, although remissions lasting several years have been observed.

6-Mercaptopurine

In 6-mercaptopurine or Purinethol we have an analogue of the nucleic acid constituent, adenine and the purine base, hypoxanthine. Microbiological studies have shown that 6-mercaptopurine is, in fact, an antagonist of hypoxanthine and adenine. Its mode of action is therefore different from that of the structural analogues of folic acid. 6-MP interferes with nucleic acid biosynthesis just as folic acid antagonists interfere with the enzymatic action of folic acid. This drug is available in 50 mg. tablets and at present its use is recommended primarily in acute leukemia. 6-MP is given orally and the initial dose in adults is from 150 to 200 mg. per day. The toxic effects are chiefly leukopenia and thrombocytopenia. There is a delayed action, and therefore therapy must be discontinued before the white blood cell count drops to too low a level. However, really satisfactory and prolonged remissions are rarely obtained unless treatment is pushed to the point of producing moderate or even severe leukopenia. Nausea, vomiting and anorexia are quite uncommon, but may occur.

It is the consensus among hematologists at the present time, that 6-mercaptopurine is approximately as effective, but considerably less toxic, than the folic acid antagonists, and this drug should, therefore, be used first. It is our practice to use folic acid antagonists in the treatment of acute leukemias, only after 6-mercaptopurine has failed to produce a remission, or has finally become ineffective.

Time does not permit a discussion of the role of other forms of therapy in the management of patients with malignant blood dyscrasias. The judicious use of steroids in the alleviation of hemolysis and thrombocytopenia and their application as oncolytic agents are subjects which cannot be covered adequately at this time. The potential use of bone marrow heterotransplantation remains to be defined, and at present must be considered an experimental rather than therapeutic approach to these diseases. An extensive investigative program is currently being carried out in many medical centers over the country under the auspices of the Cancer Chemotherapy National Service Center of the U. S. Public Health Service in an attempt to screen and evaluate clinically new agents which may be useful therapeutic tools; much progress has been made but the challenge remaining is clear.

THE ROLE OF THE AMERICAN MEDICAL ASSOCIATION IN DISASTER PLANNING*

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CONSIDERABLE progress has been made by professional groups in acquainting their membership with the medical problems incident to disaster, in teaching the basic principles of scientific emergency medical care, and in fostering a sense of responsibility for participation with other groups in planning and training for disaster. For nearly 13 years, the American Medical Association has been actively concerned with these problems and has taken a number of significant steps in the solution of some aspects of disaster medical care.

To be specific, it was on Dec. 5, 1945 that the AMA board of trustees appointed a committee on military medical service that, among other things, was charged with making a study of emergency medical service during war or grave national emergency. As the scope and responsibility of the medical profession in the event of future war became clearer in focus, it was evident to members of the house of delegates of the association that it was essential to create a standing committee of the board of trustees, and today the council on national defense is one of nine standing committees of the board. Established by the house of delegates in 1947, the council's authority and responsibility, in the broadest terms, pertain to (1) military medical affairs, and (2) civil defense matters.

The council's activities in the field of medical preparedness for disaster include assistance to state and federal civil defense authorities, as well as the department of defense, the army, navy, air force, and the U. S. Public Health Service, with medical and health problems, and acts as a liaison with allied health agencies regarding personnel, facilities and materials needed in time of war or national emergency. In sponsoring an educational program on the medical aspects of civil defense, the council helps physicians to prepare themselves for the management and care of mass casualties which would result from an atomic, biological, or chemical attack. The council collects, prepares, and distributes general and technical information in this field for both civilian and military use. The council maintains close and constant liaison with the Federal Civil Defense Administration and often works with established relief agencies, such as the American National Red Cross, and industrial groups in planning disaster relief programs.

In 1950, a full-time secretary was appointed to the council and the activities of the council were devoted largely to the initiation of civil defense programs both within and without the medical profession. *The council has felt strongly that it is incumbent upon the medical profession to exert forceful and dynamic leadership in the civil defense program of the nation at the national, state, and local levels.* It has also realized that the individual members of the medical profession at the community level would bear the brunt of first initiating and later operating any medical civil defense program that would be established. At the urging of the council, civil defense or emergency medical service committees have been established in all of the state medical associations.

In 1950, the council recommended and the house of delegates approved a resolution urging the immediate strengthening of federal and state civil defense programs. That resolution was sent to the President of the United States and to the governor of each of the states and territories. Each year since 1950, the council, in one way or another, has focused attention of our top national leaders on the urgent need for more effective civil defense leadership and active participation at the national level.

The council has sponsored national medical civil defense conferences during or preceding the annual sessions of the AMA since 1953. These have been valued means of keeping leaders in state, regional, and local civil defense organizations abreast of developments in the field. At the first such conference, there was an attendance of 80, and at the one held in June 1957 in New York City, more than 276 physicians and

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others from 36 states, Hawaii and Canada were in attendance. That program was devoted to the medical aspects of the hazards and effects of lethal radiation and radioactive fallout.

Meetings and Publications

In addition to these conferences, the council sponsors a yearly two-day county medical societies civil defense conference which is designed to help local medical and health personnel plan their work in civil defense and disaster situations. In addition to panel discussions on planning, support, and resources for disaster situations, participants are divided into workshop groups to consider practical problems based on preassumptions as to the extent and type of casualties and the estimated available personnel, facilities, and supplies to manage and care for them. These conferences are held in Chicago each year in November.

The council publishes and distributes a bimonthly *Civil Defense Review* which is mailed to more than 1,300 individuals and organizations concerned with medical civil defense affairs. A bibliography of published civil defense material and a package library service has been developed for those interested in additional information. Three publications dealing with the planning and organizing for radiological defense, and a series of 10 articles were published in the *Journal of the American Medical Association*. Later, these latter articles were reprinted in booklet form and more than 1,000 copies of these booklets have, on request, been distributed. During 1954-1955, a series of six articles was sponsored by the council and appeared in the *Journal* dealing with the problems likely to be encountered by physicians in civil defense. These were also reproduced in booklet form and have been distributed to 1,700 national, state, and local civil defense officials and to physicians interested in medical civil defense affairs.

In this brief period, it is not possible to cover in detail the numerous activities of our council and its committee on civil defense. I do want to refer to two or three other important activities. In 1955, the council was represented on a joint committee to plan a testing program of the FCDA 200 bed civil defense emergency hospital. In co-operation with the other national medical and health groups, a critical field testing of the hospital was recommended for the purpose of assisting the FCDA with the development of manuals and instructions on how to set up, staff, and operate the unit. Field tests were conducted at Fort Meade, Md. on April 10-12, 1956 and at Brooke Army Medical Center on June 18-22, 1956 by army medical corps personnel. As a result of these tests, a number of valuable recommendations was submitted by 17 analysis teams, representing civilian professional groups and government services, to the FCDA for review and appropriate action.

The committee on civil defense has scheduled its future meetings in each of the seven FCDA regions to meet with representatives of the state medical societies, women's auxiliaries to the state medical societies, and other local representatives to receive and exchange first-hand reports concerning regional and state activities in the medical civil defense field. Our first such regional meeting was held in Atlanta in October 1957, and it was enthusiastically endorsed by medical representatives from Alabama, Florida, Georgia, Mississippi, North Carolina, South Carolina, and Tennessee. There is a definite need for better co-ordination of medical civil defense activities between national, state, and local groups. We at the national level want to know what is being done at the community level and how we can be of more assistance to these groups, and they should know what we are doing in a like manner. In other words, we should have a two-way street of information and co-operation. Although we will settle for that at the present, the stress must eventually be widened into an expressway.

CD Research Program

Following a request from the Federal Civil Defense Administration, the AMA Board of Trustees, on Feb. 9, 1957, authorized the council to proceed with a research program and initiation of a plan of study to establish criteria for the provision of medical care of the surviving population, casualty and noncasualty, in the event of an enemy attack on this nation.

The development of a plan for the care of the surviving population and the problem of public health and environmental sanitation that will be present in the event of enemy attack on this nation is a tremendous project involving many varied and complex problems. The association agreed to assume this unique and challenging task, realizing that the medical profession and, more specifically, *individual physicians would have the burden and final responsibility to fulfill the medical and health requirements in time*

of a grave national emergency.

The formal contract for this project was signed on July 26, 1957 and the cost, estimated at $150,000 is being financed by the Federal Civil Defense Administration. A commission on a national emergency medical care plan, under the general direction of the council, has been established to initiate, plan, and direct the project. This six-member commission is composed of Drs. Harod C. Lueth of Evanston, Ill., and Carroll P. Hungate, of Kansas City, Mo., representing the Council on National Defense, and Drs. John F. Burton of Oklahoma City, and Robert L. Novy of Detroit, representing the AMA Council on Medical Service. The other two physician members selected from the geographical area in which the field study will be made are Drs. Hanns C. Schwyzer, of St. Paul, Minn., and Karl R. Lundeberg, of Minneapolis.

A meeting of the commission was held on July 28, 1957 to consider the selection of a study site area, a briefing by the FCDA as to the scope and purpose of the project, and the selection of a full-time staff director for the commission.

The commission selected the St. Paul-Minneapolis site, indicating that a 100-150 mile radius in this area would be desirable as a representative area in which to conduct the study. It was felt that this noncoastal area would present a number of problems which would be found in other sections of the country, and that the findings of the study would be of practical use and adaptation by other sections. The Minnesota State Medical Association has approved the study project and is greatly pleased to assist and otherwise participate. The commission named Dr. Earle Standlee, of Dallas, Texas, as its staff director.

The study project has been divided into two distinct phases. One phase is devoted to the field study in the Minneapolis-St. Paul area. That involves a comprehensive and critical review of the planning, training, and organizational plan of the Minnesota medical civil defense program. In addition, a paper test exercise is being conducted based upon certain attack assumptions with an estimated casualty load and damage appraisal. This involves the problem of matching all available medical resources (personnel, equipment, and supplies) against the total medical requirements resulting from the attack.

The second phase of the study project is broader in scope and application. It involves the study and recommendations for an organizational plan which will result in the optimum of medical care, the utilization and training of professional and nonprofessional personnel, and the outline of basic emergency medical care principles, including the sorting of casualties in the event of enemy attack on this nation.

Three task forces have been established to assist with the specific problems in the second phase. National health and medical organizations which would be directly involved in the management and care of mass casualties have designated representatives to serve on these task forces.

Where Do We Go From Here?

Up to this point, I have covered some of the activities and accomplishments of the American Medical Association and its council on national defense with respect to medical preparedness for disaster. To me, the important question is — where do we go from here and what should we do?

We all realize the urgent need for increased participation by the medical profession, including all medical and health groups, to their community responsibility in time of war or national disaster. These groups will most certainly have to assume these responsibilities and be ready and adequately prepared when the time comes. Much more remains to be done, and many more physicians and other health personnel alike will have to participate actively.

I am of the definite opinion that more emphasis should be placed on medical programs to cope with natural disasters. In the past few years, our civilian population has experienced an increasing number of devastating natural disasters. Six Northeastern states were seriously flooded in 1955. Widespread fires, wrecks, explosions, tornadoes, and other disasters have occurred in all parts of our country. All of these disasters have left in their wake millions of dollars in damage to homes and other property. The extent of deaths and the casualties they produced has been also quite large. We have all seen or read about local communities and even large geographical areas that floundered under the impact of widespread destruction accompanied by extensive casualties and loss of life.

Natural disasters were responsible for more than a third of the deaths in catastrophes — accidents in which five or more persons died — during 1957, it is reported by statisticians of the Metropolitan Life Insurance Company. Catastrophe deaths in the United States totaled almost 1,700 during the year, or about 400 more than in 1956. The increase is largely a reflection of the unusually heavy loss of life in Hurricane Audrey, which caused about 350 known deaths in early June — most of them in Cameron, La. All five of the major catastrophes (those which caused at least 25 deaths) occurred in he first six months of the year. In addition to the hurricane, the others were: The fire which destroyed a home for the aged at Warrenton, Mo., on Feb. 17, causing 72 deaths; the May 20 tornado which struck the Kansas City area, killing 39; a gas explosion which killed 37 in a coal mine near Bishop, Va., on Feb. 4; and the March blizzard which killed 29 in the Great Plains states. Because of the heavy toll in the hurricane, the loss of life in natural disasters was the highest in nearly 20 years.

Retrospectively, many costly but important lessons have been learned as a consequence of these awful disasters. We know now that the communities that had adequate medical and hospital disaster plans were prepared to cope speedily with the disaster, and more effectively and efficiently than the communities without adequate plans. Those with partial or incomplete plans, although inadequate, fared better than the communities without any plans or preparations whatever. These disasters have proved to be a valuable lesson. They have clearly demonstrated the paramount need for pre-planning and preparedness. They have shown that physicians, hospitals, and other paramedical personnel must co-operate and function as a team. They have shown that a team plan requires close co-ordination and integration. They have shown that a team needs leadership in supervision and direction.

Strengthening The Program

I strongly believe that we must have increased participation by the federal government in medical disaster and civil defense programs. The federal government should provide greater emphasis to the instructional and educational phases of the medical aspects for civil defense preparedness. It is essential that increased financial assistance be furnished. I am confident that the "public apathy" attitude, which it seems has spilled over into the medical profession, can be overcome. The physicians of this country will respond when they fully appreciate their basic responsibilities and are offered a positive and well co-ordinated program. It is high time we commence to tie together the numerous un-co-ordinated medical plans which, in some instances, are in direct conflict with each other and do not even enunciate the same professional language.

Surplus federal property, wherever appropriate, should be turned over to FCDA and state civil defense organizations for use for civil defense purposes. In April 1956, the council went on record to request congress to approve pending legislation on this subject.

It might be wise to consider the volunteer system of civil defense personnel as outdated. Thought must be given to some system for the payment of full and part-time personnel trained and available for use in disasters and in time of national emergency. This, to me, is not impractical, particularly, in view of the current demands upon our professional and skilled personnel. The use of virtually a total volunteer system in long-range civil defense planning or even short-time operation is unrealistic and fails to recognize its basic weakness.

It doesn't seem proper to me to place the major responsibility of civil defense operations upon the local levels and allow these localities to falter and shift for themselves. If necessary, compulsory measures must not be overlooked and, if needed, directions must be channeled from the top down. As a simple illustration, why would it not be practical to require completion of basic first-aid courses for all persons licensed to drive an automobile or other vehicle? Each state could establish a program whereby a driver's license would not be issued until the person had completed his course. This is only one of many ideas that could be adapted to a practical nation-wide training program.

This is the challenge to the medical profession and the responsibility of each individual physician. The medical profession has always met the challenges in the past. The physicians in this country will again measure up to the leadership responsibilities and participation expected of them.

A REVIEW OF CESAREAN SECTIONS FROM 1953 THROUGH 1957 AT ST. JOSEPH'S HOSPITAL, PHOENIX, ARIZ.

By Robert C. Evans, M.D.
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THIS review was undertaken to determine the changes occurring over the period of the last five years with particular reference to maternal morbidity and fetal morbidity and mortality. The review shows that at St. Joseph's Hospital, for the five year period ending Dec. 31, 1957, there were a total of 20,645 mothers delivered. Of these, 593 were by cesarean section for an overall cesarean section rate of 2.9 per cent (Table 1).

Cesarean Section Rate

Table 1

	1953	1954	1955	1956	1957	Total
Number of Mothers Delivered	3,394	3,794	3,942	4,400	5,115	20,645
Cesarean Sections	109	110	113	116	145	593
Cesarean Section Rate (%)	3.2	2.9	2.8	2.6	2.8	2.9

This has been a fairly stable percentage rate, with the delivery rate, rising only slightly more rapidly than the cesarean sections. The cesarean sections were divided into two categories, those having primary cesarean sections, and those having repeat cesarean sections.

The age groups (Tables 2 and 3) show that for the primary cesarean section group, the largest percentage (26.7) were in the 21 to 25 year age group. There were only 16 patients over the age of 41 and one under the age of 15. The patient under 15 was a primigravida whose indication for cesarean section was cephalopelvic disproportion. Of those over 41, seven were primigravidas, three had had one previous child, and one each had two, three, four, nine, 12 and an unknown number of children.

Indications in this age group included, three for cephalopelvic disproportion and two elderly primigravidas with breech presentations. There were two indications of premature separation of the placenta, one, the patient with an unknown number of children, and one a primigravida. Two diagnoses of placenta previa were made, one a para four and the other a para 12. There were three indications of uterine inertia occurring, one a primigravida, one para one and a para three. An indication of transverse lie in a para two, fetal distress with twins in a para 11, malpresentation in a para one, and spondylolisthesis in a para one were also made in patients over 41 years old. The greatest number of repeat cesarean sections occurred in the 21 to 30 age group (55.6 per cent). There were only five women over 41 years old. One had had one previous section, three had had two previous sections, and one had had an unknown number of sections. There were two indications (for the initial cesarean section) of cephalopelvic disproportion, one, a para four with an unknown number of previous sections, and one a para two with two previous sections. There was one indication which was considered as mental occurring in a para seven with two previous cesarean sections. There was one indication of a placenta previa in a para two with one previous section, and an indication of toxemia in a para two with two previous cesarean sections.

An attempt was made to calculate a cesarean section rate among primary sections and repeat sections; however, this was found to be highly inaccurate because many of the parities were not recorded and indeed, in 1953, none of the parities were recorded. Therefore, the primary section rate of 6.25 per cent is only an approximation, as is the repeat cesarean section rate of 1.6 per cent.

Tables 4 and 5 relate the parity of the patients with the primary and repeat sections respectively. As would be expected, the greatest percentage of primary sections occurred to pri-

Table 2
Age and Primary Sections

	1953	1954	1955	1956	1957	Total	%
Under 15		1					0.3
15-20	4	7	11	10	14	46	13.2
21-25	14	18	23	18	20	93	26.7
26-30	22	13	13	15	15	78	22.4
31-35	12	15	15	14	14	70	20.1
36-40	10	8	6	5	15	44	12.6
41-45	4	1	2	6	3	16	4.7
Total	66	63	70	68	81	348	
% *	#	6.3	6.6	6.0	6.2	6.25	

Table 3
Age And Repeat Sections

	1953	1954	1955	1956	1957	Total	%
	0	0	0	0	0		
15-20	3	1	2	3	3	12	4.9
21-25	11	18	8	14	17	68	27.8
26-30	11	9	19	12	17	68	27.8
31-35	12	12	10	11	14	59	24.0
36-40	4	6	4	7	12	33	13.5
41-45	2	1	0	1	1	5	2.0
Total	43	47	43	48	64	245	
% *	#	1.7	1.4	1.5	1.7	1.6	

*Approximate percentages of total primigravidas or multiparas (all parities were not recorded).
#Parities not recorded this year.

migravidas (61.5 per cent) and well over half (52.6 per cent) of repeat cesarean sections were done on women who had had one previous child. It is interesting to note the indications for primary cesarean sections in the greater parity group. Of the para sixes, the indications included a malpresentation, cervical stenosis, and a prolapsed cord with twins. The indications for cesarean sections were: the para seven, a transverse lie, the para eight, a premature separation of the placenta, the para nine, a fetal distress with twins, the para 12, a placenta previa, and on the two unknown parities, a premature separation and a placenta previa. Indications for first sections in the repeat section groups included, in the para six group, two patients with one previous cesarean section, one with an indication of premature separation of the placenta (patient hemorrhaged prior to this section, also) and the other for extensive cervical repair. One patient had had four previous cesarean sections with the primary indication of cephalopelvic disproportion. One patient had had two previous sections with a primary indication of diabetes. Of the two para sevens, one had a mental indication and had had two previous cesarean sections, and one had one cesarean section for malpresentation. The para eight's indication was malpresentation with two previous cesarean sections. The para nine had had one previous cesarean section for placenta previa. The two unknown parities both had unknown indications for an unknown number of sections.

Gestation in cesarean sections in this series was calculated from the date of the last menstrual period. As would be expected, this is somewhat inaccurate and many of the patients with 40-week plus gestations were actually at term. It is interesting to note in the repeat section category (Table 7) that the majority of the cesarean sections were scheduled in the 39th week of gestation. Slightly fewer (29 per cent) were scheduled in the 38th week, and only 55 (22.5 per cent) were allowed to reach term. Indications for primary sections in the early gestational period (Table 6) include in the 34-week group, a primagravida with toxemia and diabetes, and a para three and para four each with a placenta previa. The 32-week group includes, a primigravida with toxemia, a para one with malpresentation, and a para six with a premature separation of the placenta. In the 30-week group are a primigravida with a transverse lie and

Table 4
Parity and Primary Sections

	1953	1954	1955	1956	1957	Total	%
o	42	37	38	45	52	214	61.5
i	9	10	14	9	12	54	15.5
ii	7	4	6	4	7	28	8.0
iii	4	3	7	1	3	18	5.2
iv	1	4	2	6	2	15	4.3
v	1	3	2		4	10	2.8
vi	1	1			1	3	0.9
vii				1		1	0.3
viii		1				1	0.3
xi				1		1	0.3
xii			1			1	0.3
Unk.	1			1		2	0.6

Table 5
Parity and Repeat Sections

	1953	1954	1955	1956	1957	Total	%
o	1	1	1		2	5	2.0
i	20	33	19	27	30	129	52.6
ii	10	10	7	9	20	56	22.8
iii	5	2	6	5	5	23	9.4
iv	4	1	3	3	3	14	5.7
v	1		3	2	2	8	3.3
vi			2	1	1	4	1.6
vii	1		1			2	0.9
viii					1	1	0.4
xi				1		1	0.4
UNK.	1		1			2	0.9

Table 6
** Gestation and Primary Sections

Weeks	1953	1954	1955	1956	1957	Total	%
40+	15	13	16	31	37	112	32.1
40	26	25	22	16	16	105	30.1
39	10	9	8	8	9	44	12.6
38	3	7	11	4	5	30	8.5
37	4	3	3	5	4	19	5.5
36	2	2	5	3	5	17	5.0
35	3	1	3		3	10	2.8
34	1	1	1			3	0.9
32	1		1		1	3	0.9
30		1		1		2	0.6
29					1	1	0.3
28	1	1				2	0.6

Table 7
** Gestation and Repeat Sections

	1953	1954	1955	1956	1957	Total	%
40+	1	1	1	1	5	9	3.7
40	16	11	9	12	7	55	22.5
39	8	10	16	14	27	75	30.6
38	13	14	12	14	18	71	23.0
37	5	5	3	6	5	24	9.8
36		2	2			4	1.6
35		2				2	0.8
34		2		1		3	1.2
32					1	1	0.4
Unk.					1	1	0.4

Table 8
Pelvic X-Ray

	1953	1954	1955	1956	1957	Total
No	94	91	92	90	125	492
Yes	15	19	21	26	20	101
%	22.7	30.0	30.0	38.2	24.7	29.0

Table 9
Number of Multiple Sections

	1953	1954	1955	1956	1957	Total
2	30	35	31	33	43	172
3	7	9	3	8	15	42
4	5	2	4	2	3	16
5		1	3	3	2	9
6			1	2	1	4
7				2		2
Unk.	1		1			2

**Gestation as calculated from L.M.P.

toxemia, and a para one with placenta previa. The 29-week gestation is a para one, who had a transverse lie with premature rupture of the membranes. The 28-week group includes a para one with transverse lie and premature rupture of membranes, and a para four with placenta previa. Indications for the original sections in the repeat section group include, in the 36-week group, a para one with one previous section for toxemia, another para one with one previous section for cephalopelvic disproportion, a para three with two previous sections for achondroplasia, and a para four with one previous section for extensive cervical repair. In the 35-week group are two para ones with one previous section for cephalopelvic disproportion (one of these also had diabetes) and a para five with one previous section for diabetes. In the 31-week gestation period is a para two with one previous section for a cephalopelvic disproportion, and the unknown gestational period was on a 16-year-old girl who had had one previous section for a cephalopelvic disproportion.

Table 8 shows that only 101 of the 593 patients had pelvimetry films made prior to the section for a percentage of only 29 per cent. Some of these x-rays were made in the cases of placenta previa to diagnose that entity, but the majority were done to confirm a diagnosis of cephalopelvic disproportion.

Table 9 is of interest, showing the large number of women having two or more cesarean sections and, indeed, two patients each have had seven.

Table 10 shows the types of anesthesia used in the cesarean sections done at this hospital. Well over 90 per cent of our cesarean sections are done under spinal anesthesia. Many of these are supplemented, after the baby is delivered, with intravenous, short-acting barbiturates to allow the patient to sleep through the remainder of the operation. Twenty of our patients received short-acting barbiturates as the initial anesthetic, then requiring nitrous oxide and muscle relaxant administration immediately after the baby was delivered to allow the operative procedure to proceed without difficulty. Eighteen of our patients received cyclopropane induction and these, too, were switched to a less potent anesthesia for the remainder of the operation.

Table 10
Types of Anesthesia

	1953	1954	1955	1956	1957	Total	%
Spinal	96	99	104	107	133	539	90.8
Sodium Pentathal	1	5	1	5	8	20	3.2
Cyclopropane	3	4	6	3	2	18	3.0
Local	4	2		1	1	8	1.4
and Apinal	2					2	0.4
and Pentathal	1				1	2	0.4
and Cyclopropane			1			1	0.2
Nitrous Oxide	1					1	0.2
Ether	1					1	0.2
Spinal and Cyclopropane			1			1	0.2

The indications for the use of barbiturate anesthesia were numerous. Of the 20 patients, 10 were primary sections, and 10 were repeat cesarean sections. Of the 10 primary sections, two were for premature separation of the placenta, one for placenta previa, two for traverse lie with premature rupture of the membranes, three for uterine inertia, one for a patient who had had a previous cerebral vascular accident, and one for cephalopelvic disproportion. Of the 10 patients receiving barbiturates for repeat sections, one had a ruptured uterus with a stillborn infant.

Of the 18 patients receiving cyclopropane, 15 were for primary sections. The indications included one for premature separation of the placenta, six for placenta previa, one for toxemia with cephalopelvic disproportion, four for cephalopelvic disproportion, one for spondylolisthesis, one for cephalopelvic disproportion with a hydrocephalic baby, and one for prolonged labor. Of the eight patients receiving only local anesthetic, five were for primary sections. One of these for placentia previa, one for a Bandl's constricting ring, one for a hip deformity, one for a pelvic deformity, and one for ankylosis of the spine.

The remainder of the anesthesias included on two patients the use of spinal anesthesia with local anesthesia, one on a primigravida with uterine inertia, and one on a third repeat cesarean section. Two patients received local anesthesia supplemented by barbiturates, one for a repeat section on a patient who had previous hip surgery, and one on a primigravida whose fetus was in distress. The local infiltration was made by the obstetrician while awaiting the arrival of the anesthetist. The patient receiving local anesthesic supplemented by cyclopropane was a para one who was undergoing her primary section because of severe bladder trauma occurring during the delivery of her first child. The one patient receiving nitrous oxide anesthesia was a multipara undergoing her first cesarean section for premature separation of the placenta. She was in shock when taken to the

surgical suite and required no more than nitrous oxide for the operation. The patient receiving ether was a primigravida who had prolapsed the fetal cord. The patient receiving a spinal supplemented by cyclopropane, was a primary section on a para three for transverse lie (the spinal anesthetic was not successful and the cyclopropane was required for the operation).

Table 11
Types of Incisions

Abdomen	Uterus	1953	1954	1955	1956	1957	Total	%
Midline	Midline	74	67	63	54	62	320	54.0
Midline	Transverse	28	19	31	44	58	180	30.4
Transverse	Midline	1	7	4		2	14	2.4
Transverse	Transverse	5	4	4	11	13	37	6.2
Mayland	Midline		1	1	1		3	0.5
Mayland	Transverse		8	9	1		18	3.0
Retroperitoneal						3	3	0.5
Classical		1	2		4	1	8	1.4
Cesarean hysterectomy			2	1	1	6	10	1.6

Table 11 shows the variety of incisions used for the cesarean sections done in this hospital. Well over half of the surgeons preferred a midline abdominal incision with a midline low cervical uterine incision. About one third of the patients received a midline incision in the abdomen with a transverse lower uterine segment incision. There seems to be an increasing use of this technique in the past year or two. A transverse incision in the abdomen and a midline incision in the uterus was used in a very few patients, while a transverse incision in both the abdomen and uterus was used in only 37 patients. Again this technique has been used more in the last two years. The transverse incision through the skin and anterior rectus fascia with a sectioning of the recti muscles (Maylard incision) was used in a few instances, mostly with a transverse incision in the uterus, and only three times with a midline uterine incision. Three retroperitoneal sections were done in 1957, two on primary sections and one on a third repeat section for an unknown cause. One of the primary sections was for fetal distress on a patient with one previous child, and one was for uterine inertia on a patient having three other children. The patient with fetal distress had had premature rupture of her membranes for several days prior to the section, and had an amnionitis at the time of operation. The other two retroperitoneal cesarean sections were done, not because the situation indicated that this technique was necessary, but were done to show the resident staff the technique of retroperitoneal cesarean sections, as this technique is only rarely used in this era of antibiotics. Only eight classical cesarean sections were done in the last five years, seven of them as primary cesarean sections, and one on a repeat cesarean section. The latter was on a para four at 38 weeks gestation with five previous cesarean sections (the original one for cephalopelvic disproportion). Of the primary sections, four were on primigravidas, one had had one previous child, and three had had two previous children. One was done at 30 weeks gestation, one at 36 weeks, two at 38 weeks, and four at 39 weeks. The indications included previous soft tissue dystocia, toxemia, previous cerebral vascular accident, cephalopelvic disproportion, elderly primigravida with breech presentation, ankylosis of the spine, and a Bandl's constriction ring.

There were 10 cesarean hysterectomies done over the five-year period. Two of these were because of fibroid uteri, each occuring to a para two with two previous sections. Three of these cesarean hysterectomies were done for cervical stenosis, two on para fours with one previous section, and one on a para six with one previous section. One each were done for an original indication of placenta previa (on a para four with three previous sections), malpresentation (on a para nine with three previous cesarean sections), abruptio placentae with a placenta previa (on a para 10 with two previous sections), an unknown reason (on a para five with five previous sections) and on a para two with one previous section for a ruptured uterus with this pregnancy.

Table 12 shows the varied indications for cesarean sections during this five year period. There were 162 cesarean sections done prior to 1953 on patients requiring cesarean sections since Jan. 1, 1953. The indications for these are listed in the first column. There were 82 patients receiving cesarean sections in this hospital since 1953 who had had previous cesarean sections here in that period of time. Two hundred and fifteen sections were done for cephalopelvic disproportion with or without some other indication. This made it well over one-third of the patients (36.3 per cent). Most of the indications are self explanatory, although a few require clarification. There were no indications as to the source of the bleeding in those patients with an indication of hemorrhage of undetermined origin. The four patients listed under cervical

Table 12
Indications for Cesarean Section

	Prior to 1953	1953	1954	1955	1956	1957	Total	%
Repeat Sections *Prior to 1953		42	39	29	18	34	162	
Repeat Sections since 1953**			8	14	30	30	82	13.9
Cephalo-pelvic disproportion	62	19	20	22	24	29	176	30.3
with breech presentation	4	3	5	4	6	6	26	
with diabetes	1					3	4	
with premature separation	1						1	
with toxemia	2				3		5	
with prem. rupture of membranes	1						1	
with twins		1					1	
with possible ruptured uterus				1			1	
Uterine Inertia	13	4	5	3	4	6	35	6.8
with breech presentation	1	2	1				4	
with amnionitis			1				1	
Placenta Previa	12	7	10	10	11	7	57	10.2
with twins	1			1			2	
with premature separation	1						1	
Premature Separation of Placenta	5	5	3	5	3	5	26	4.4
Toxemia of Pregnancy	8	1	3	2	1	2	17	5.0
with fetal distress					1		1	
with diabetes	1	1		2		1	5	
with premature separation					1		1	
with transverse lie			1				1	
with breech presentation	1						1	
with twins				2			2	
with Bandles ring					1		1	
Transverse Lie	5	2	2	1	2	1	13	3.3
with bicornuate uterus				1			1	
with prem. rupture of membranes		1				5	6	
Malpresentation	1	1	1	1	3	3	10	1.7
Cervical dystocia	4	3	3		2	2	14	2.6
with breech presentation						1	1	
Fetal Distress		1				2	3	0.6
Prolapsed Cord	1	1		1		1	4	0.9
with twins						1	1	
Hemorrhage of undetermined origin	3			1	2		6	1.2
with diabetes	1						1	
Elderly Primip. with breech		3			1		4	11.2
Previous Hysterotomy	1						1	
Fetal Hydrocephaly	2	1					3	
Mental	3						3	
Previous Hip Surgery	1						1	
Failed Forceps		2	3	2			7	
Hip Deformity		1					1	
Spondylolesthesis		1				1	2	
Pelvic Deformity		1					1	
Extreem perineal scaring		1					1	
Fibroids	1		1				2	
with breech presentation		1	1				2	
Face presentation-chin posterior		2					2	
Double Uterus	2						2	
Previous Rupture of Uterus		1					1	
Stenosis of Cervix			1	1		2	4	
Convenience	1						1	
Previous C.V.A.			1				1	
Previous Myomectomy			1	1			2	
Recent fracture of pelvis			1				1	
Double cervix and vagina	1						1	
Severe Asthma	1						1	
Bandles Constriction Ring	1					1	2	
Diabetes	1				1	2	4	
with breech presentation					1		1	
Ankylosis, Lower extreemities	2				1		3	
with twins				1			1	
Bladder Damage with Previous Del.				1			1	
Rising Rh Titer				1			1	
Achondroplasia	1						1	
Previous Vaginal Plastic	1						1	
Extensive cervical Repair	1						1	
Obstructed Labor						1	1	
with breech presentation					1	1	2	
Hypertension with Inertia					1		1	
Suspected Tbc (1) Plac. Prev.(2)	1						1	
Soft Tissue Dystocia						1	1	
Large Baby	1						1	
Unknown ***	11						11	1.9

*or at other hospitals before or after 1953.
**Done in this hospital.
***Two Classical – One with Rupture (Poro with repeat) – One with Complications with repeat.

stenosis all acquired a stenosis from repeated cervical cauterization following previous vaginal deliveries. It is interesting to note that among the 11 patients having an unknown indication for previous or first cesarean section, two had classical cesarean sections, and that one of these required a cesarean hysterectomy on the second pregnancy for ruptured uterus, and the other developed complications following her second cesarean section.

Tables 13 and 14 relate to maternal morbidity over this five-year period, and some miscellaneous items related to the cesarean section. As can be seen from Table 13, over three-quarters of the patients (76.9 per cent) had no postoperative morbidity. Among the other 23 per cent, over half were febrile only (at least no diagnosis of the cause of the fever was indicated on the record). A fever of 100.6 degrees or under is listed separately, since on the maternity ward a postpartum fever is defined as 100.6 degrees or over for two or more consecutive days. (It was brought out in the discussion following the presentation of this paper at the staff meeting that the obstetrical definition of a post partum fever is usually 100.4 degrees or over. This being the case, the percentage of fevers would have been slightly higher than those recorded in this paper.) The most extraordinary temperatures recorded were those lasting five days or more including a five-day fever in a 36-year-old patient who was a para three and had a primary section for a transverse lie. The other five-day fever occurred in a 19-year-old primigravida whose cesarean section was done for cephalopelvic disproportion. The seven-day fever occurred in a 25-year-old patient on her first repeat section, who developed a wound infection. The nine-day fever occurred following a cesarean hysterectomy for cervical stenosis on a 35-year-old patient. The eight-day fever occurred in a 39-year-old patient on her first repeat cesarean section following a classical section. She developed a paralytic ileus postoperatively and perforated the cecum, necessitating reoperation and closure of the perforation.

The shock prior to the section occurred to a patient with a premature separation of the placenta. A postoperative shock (which is not recorded in the table) occurred also following a premature separation of a placenta. One patient developed cardiac failure following her third repeat cesarean section at the age of 24. Pneumonitis occurred in a 37-year-old patient having her first section for a placenta previa following four previous vaginal deliveries. Her temperature was recorded as 101 degrees for two days. Two patients eviscerated, one following a primary section for cephalopelvic disproportion using a midline incision in the abdomen, and a midline incision in the lower uterine segment. The other evisceration occurred in a 37-year-old patient who was having her second repeat cesarean section. Her temperature was recorded as 104 degrees for four days.

A pyelitis occurred to a 33-year-old patient following her fourth cesarean section with a recorded temperature of 100.8 degrees for one day. The wound infection previously mentioned occurred in a 25-year-old patient on her first repeat cesarean section. The paralytic ileus occurred in a 38-year-old patient on a primary section with an indication of cephalopelvic disproportion and a possible rupture of the uterus following two previous deliveries. Her temperature was recorded as 103 degrees for four days. The patient with the perforation was previously mentioned. Another patient not mentioned in the chart is one who developed convulsions following her cesarean section. She

Table 13
Maternal Morbidity

	1953	1954	1955	1956	1957	Total	%
Fever-Over 100.6 * for one day	12	11	12	11	11	57	9.6
for two days	12	10	10	5	3	40	11.9
for three days	1	2	2	2	4	11	
for four days	2		2	5	4	13	
for five days		1			1	2	
for seven days			1			1	
for eight days					1	1	
for nine days					2	2	
for ten days					1	1	
Shock prior to Op.	1					1	1.6
Cardiac Failure		1				1	
Pneumonitis			1			1	
Evisceration		1		1		2	
Pyelitis			1			1	
Wound Infection			1			1	
Ileus			1			1	
With perforation					1	1	
None	81	84	82	92	117	457	76.9

Table 14
Miscellaneous Items

	1953	1954	1955	1956	1957	Total	%
Vaginal Deliveries following section							
Term	1	5	2	3		11	2.2
Premature		1				1	
Between sections			1			1	
Thin Scars (reported)		1		1	5	7	
"Hiatus"		1				1	
Apoplectic Uterus	1					1	
Dehisense of Ut. Scar				1		1	

*Using the obstetrical definition of post partum fever, (any temperature of 100.6° or over for two consecutive days) this line is separated from the others.

was 39 years old, a primigravida, and the indication for the section was uterine inertia. Among the miscellaneous items in Table 14, it is noted that we have a post cesarean section vaginal delivery rate of 2.2 per cent. This is somewhat low in that only the records of those patients receiving cesarean sections in this hospital were reviewed. There were probably many others who received cesarean sections elsewhere and who delivered vaginally at this hospital, whose records were not reviewed. Of the five patients requiring cesarean sections in 1954, one delivered vaginally in 1955 and four in 1957. Four of these patients required primary cesarean sections for placenta previa and one for fetal pelvic disproportion with breech presentation. Two patients had midline abdominal and midline uterine incisions, one had a midline abdominal and transverse uterine incision, and two had traverse Maylard incisions in the abdomen, and transverse incisions in the uterus (this was the same patient who subsequently delivered twice vaginally). Of the two patients requiring cesarean sections in 1955, one delivered in 1956, (with a primary section for toxemia and using a transverse Maylard abdominal incision and a transverse uterine incision) and one delivered in 1957, having her primary section for a premature separation of the placenta with a midline abdominal and a transverse uterine incision. Of the three patients requiring cesarean sections in 1956, all three delivered in 1957, two requiring cesarean sections primarily for placenta previa, one of these having a midline abdominal and a midline uterine incision, the other having a midline abdominal and transverse uterine incision (this patient sustained a temperature of 102 degree for four days following her cesarean section). The third patient had her cesarean section for premature separation of the placenta, using a midline abdominal and transverse uterine incision. The patient requiring cesarean section in 1953, subsequently delivered in 1955, her section being done for uterine inerita with breech presentation and using a midline abdominal and transverse lower uterine incision. The one patient who delivered a premature baby did so in 1955 following a repeat section for an unknown reason in 1954. One patient had a vaginal delivery between her cesarean sections, having her original cesarean section in 1951 for an unknown reason, delivering vaginally in 1953, and requiring a repeat cesarean section in 1955.

The one patient listed with a "hiatus" was a para four at term, receiving her fourth repeat cesarean section for cephalopelvic disproportion. The surgeon did not make clear what he meant by "hiatus," but apparently it was a separation of the uterine muscle leaving only the peritoneum over the scar and allowing the fetus to be seen through it. This patient had received midline abdominal and midline lower uterine incisions. The apoplectic uterus was recorded in 1953 on a 23-year-old patient who was a para two, having her primary section for premature separation of the placenta. She subsequently had a repeat cesarean section without difficulty during the prenatal period. One dehiscence of the uterine scar is recorded on a 37-year-old patient who was having her first repeat section after having had two children vaginally, and a primary section for uterine inertia.

Table 15 gives the fetal results for this series. Five hundred and forty-five of the babies delivered had no morbidity, another 18 were affected by various conditions and recovered. Among these entities were erythroblastosis, dehydration, prematurity, cerebral damage, atelectasis, ABO incompatability, cerebral edema, and nasal injury. Only a few of these conditions could be connected with the cesarean section. The dehydration may have been prevented by an earlier section or better preoperative care. Only two of the seven babies who were premature were from repeat cesarean sections. One was thought to be at 37 weeks, the other at term. The other five were for indications necessitating immediate surgery, including four for placenta previa, one for a transverse lie with premature rupture of the membranes, and one for mal-

Table 15
Infant Results

	1953	1954	1955	1956	1957	Total	%
Good	95	96	105	110	38	545	92.0
Erythroblastosis	1	1	1	1		4	
Dehydration	1					1	3.0
Prematurity	3	1			3	7	
Cerebral Damage	1					1	
Atelectasis		1				1	
ABO Incompatability		1				1	
Cerebral Edema				2		2	
Nasal Injury				1		1	
Stillborn	3	3	2		1	9	1.5
Expired	5	7	4	2	3	21	3.5
Prematurity	1	2				3	
Respiratory	2	2			1	5	
Erythroblastosis	1	1	1			3	
Congenital heart	1		1			2	
Muconeum aspiration		1				1	
Hyaline membrane		1	1		2	4	
Cerebral Anoxia			1	1		2	
Cerebral Hemorrhage				1		1	

presentation. The baby with the cerebral damage was in a primigravida at term with a breech presentation and fetal pelvic disproportion. The atelectasis occurred in a baby following a cesarean section for a placenta previa. The cerebral edema occurred in one baby following a cesarean section for a placenta previa, and one for hemorrhage of undetermined origin. The nasal injury may have been prevented by earlier cesarean section, or possibly it occurred during the cesarean section.

In this series, we had a stillborn rate of 1.5 per cent. Among these, one was an anencephalic, two were hydrocephalic, one followed a uterine rupture, four after premature separation of the placenta, and one was in a diabetic mother. Of the 21 babies which expired following cesarean section (for an uncorrected fetal mortality of 3.5 per cent) only 10 could be somehow related to the cesarean section. This would reduce the fetal mortality rate to an actual rate of 1.6 per cent. Of the three babies who died of prematurity, all necessitated early section, one for a transverse lie with premature rupture of the membranes, one for placenta previa, and one for premature rupture of the membranes in a patient who had a previous cesarean section for cephalopelvic disproportion. Of those babies which died a respiratory death, one was a baby of 32 weeks gestation, the section being done for a premature separation of the placenta. The remaining three respiratory deaths may have been related to the cesarean section. One was a first repeat cesarean section following a section for malpresentation. Spinal anesthesia was used. The second was in a primigravida at term for toxemia with a transverse lie. The third respiratory death occurred following a repeat cesarean section for cephalopelvic disproportion in a 16-year-old patient who had had one previous cesarean section. The three deaths from erythroblastosis and the two from congenital heart disease could not be related to the cesarean section. The one death from meconium aspiration occurred following a trial of forceps and subsequent cesarean section for cephalopelvic disproportion. The baby was at term, and the mother was a primigravida.

The four babies dying of hyaline membrane disease all followed elective cesarean sections and, since hyaline membrane disease is considered to be a disease of the premature child, the estimated ages were apparently incorrect. The recorded gestation for them were, two at 37, one at 38, and one at 39 weeks, while the weights of these babies would indicate prematurity. One of the sections was for an indication of cervical stenosis, and three were repeat sections for cephalopelvic disproportion (one a third repeat cesarean section). Of the two babies dying of cerebral anoxia, one was a term infant whose mother was sectioned for an indication of diabetes, while the other was for an indication of premature separation at a gestational age of 37 weeks. This latter baby's death apparently was the result of the premature separation and not the cesarean section. The one baby dying of cerebral hemorrhage which occurred following a repeat cesarean section for uterine inertia, had a gestation of 38 weeks. The baby dying of post hemorrhagic shock which occurred following a cesarean section for placenta previa, had a gestation of 34 weeks, cyclopropane anesthesia was required and here again the baby's death was apparently the result of the placenta previa, and not the cesarean section.

Discussion

This paper was presented at a monthly staff meeting and several interesting points were brought out in the discussion which followed. Our cesarean section rate compares favorably with others across the country, being more conservative than that of the West coast. The indications, although varying in miscellaneous, odd single indications, are also comparable to those found elsewhere.

X-ray pelvimetry, as it was pointed out, is not used very often in the cases of obvious cephalopelvic disproportion, but in those borderline pelves where a longer trial of labor or a trial of forceps may be indicated. Clinical judgment is the most important factor in determining a disproportion.

With an increased incidence of lawsuits over spinal anesthesia, as well as some recent work done on the oxygen saturation of the blood following spinal anesthesia (which indicates that this is not the ideal anesthesia to be used in cesarean sections due to the decreased oxygen in the blood) it was brought out that maybe local injections should be used more often and/or induction anesthesia used on more elective-type sections. The poor results with barbiturate and cyclopropane anesthesia, when analyzed, show them to be due to the emergency situations under which they are used.

The type of incision does not seem to have any bearing on the outcome as long as it is low cervical. The incision with which the surgeon is most familiar works best in his hands. Another recent article indicates that results with classical sections are now camparable to those of low cervical. This, however, is still very much in dispute.

There were fewer major complications in our series than would be expected from any series of as many routine major surgeries. The study did point out a lack of diagnosis of postpartum fevers, or at least the charting of these diagnoses. The lack of mortality among the mothers, I believe, speaks for the rapidity in which we are able to get an emergency section done.

Our fetal results are very favorable with a corrected fetal mortality of only 1.6 per cent. Since our mortality with breech deliveries runs about 4 per cent it was pointed out that perhaps more of our breech presentations should be sectioned. Respiratory disorders seem to be our biggest problem and perhaps when more is known about the etiology and development of hyaline membrane disease, more of these can be saved.

Summary

1. A reveiw of 593 cesarean sections over a five-year period is presented and analyzed.

2. Discussion resulting from this summary's presentation to the hospital staff is presented.

BOOK REVIEWS

DIAGNOSTIC MEDICAL PARASITOLOGY
by **Edward K. Markell,** M.D. and **Marietta Voge.** 276 pages. Illustrated. (1958) Saunders. $7.

A concise presentation of essential facts about protozoan, helminth, and arthropod parasites includes drawings, sketches and microphotographs carefully selected to stress points of diagnostic importance. The emphasis is on the practical rather than on encyclopedic coverage. The authors are from University of California, Los Angeles.

Stacey's Medical Books, San Francisco, Calif.

RECONSTRUCTIVE AND REPARATIVE SURGERY
by **Hans May,** M.D. 2nd ed. 115 pages. Illustrated. (1958) Davis. $30.

An outstanding text is revised to include important new sections on tissue transplantation, treatment of wounds and burns, reconstructive surgery of the face and extremities (especially hands), and the use of new antibiotics. The five divisions of the book cover general principles, regional features, and clinical examples.

Stacey's Medical Books, San Francisco, Calif.

ENDOCRINE PATHOLOGY OF THE OVARY
by **John McLean Morris,** M.D. and **Robert E. Scully,** M.D. 151 pages. Illustrated. (1958) Mosby. $8.50.

Drawing upon the experiences and records of many prominent men and centers in this country and abroad, and upon items of a large bibliography, the authors relate pathologic changes in the ovary to the accompanying clinical endocrine effects. Numerous photomicrographs complement the detailed descriptions.

Stacey's Medical Books, San Francisco, Calif.

FRACTURES AND OTHER INJURIES
edited by **Edwin F. Cave,** M.D. 863 pages. Illustrated. (1958) Year Book. $28.

Massachusetts General and Harvard have restored our pride. In spite of the many good fracture books by Americans, it almost seemed that if top authority was needed we had to refer to either English or Austrian authors. The format, material, presentation, and editorial ability represented in this new book are at the highest level. The whole field of injury, not limited alone to bone and joint, is included as well as excellent studies in rehabilitation, anesthesia, organization of fracture services, and all the other problems associated with injury. This is 25 years of group experience in a great clinic.

Stacey's Medical Books, San Francisco, Calif.

HANDBOOK OF MEDICAL TREATMENT
by **Milton J. Chatton,** M.D., **Sheldon Margen,** M.D., and **Henry Brainerd,** M.D. 6th ed. 569 pages. (1958) Lange. $3.50.

Readers of these reviews will have noted that no volume is tagged a "must" book. Here, however, is one that every practicing physician ought to have in his bag, a wonderful compendium of concise and useful information. It would be a bargain at twice its price. All three authors are associated with the University of California School of Medicine, San Francisco.

Stacey's Medical Books, San Francisco, Calif.

SPORADIC AND ATYPICAL ENCEPHALITIS IN ARIZONA

Charles P. Neumann, M.D. Samuel J. Grauman, M.D.
Tucson, Arizona

RECENTLY throughout various scattered areas of the Southwest there appear to have occurred sporadic outbreaks of encephalitis, some atypical, some apparently identifiable as previously known strains. These do not appear to have taken the form of epidemics, but certainly have been present in greater than usual numbers. The present paper is designed to inform the physicians of Arizona of the occurrence of what appears to be an increased number of encephalitis patients, both typical and atypical in this region.

Three or four patients coming to our personal knowledge have been males, aged approximately 55 to 65 years. One of these had previously been a rather high hypertensive, a second an essentially healthy man, the third a mild hypertensive suffering from chronic rheumatoid arthritis and recurring gastric ulcer. The fourth possible case was a boy.

Onset in one of these cases was extremely insidious. The day prior to illness, the patient remarked about feeling particularly well save for a slight sleepiness. On the following morning, his wife was unable to rouse him and when observed, was found to have a rectal temperature in excess of 108 degrees, to be totally comatose and unresponsive to all stimuli, and to exhibit questionable Babinski reflexes, otherwise being areflexic. His moderate hypertension rapidly dropped to blood pressure levels approaching shock (about 90 systolic) but following intensive steroid therapy and very large doses of antibiotics, he appeared to make a rapid recovery and was dismissed as apparently cured on his eighth hospital day.

The second patient noted an onset of a mild degree of chilliness with what appears to have been slight mental confusion and a dysmetria. His usual hypertensive level of approximately 200 mm mercury systolic continued. Physical findings were in all respects at the outset negative. It is notable that neither in this nor in the first case was headache a presenting symptom. This patient ran a moderately febrile course, responding to antibiotic and corticosteroid therapy, the latter being initiated when the blood pressure fell to levels less than 150. This patient appears to present a residual mental defect, and at the present writing continues hospitalized.

The third adult patient exhibited onset of mild visual disturbances and fever. This patient is continuing at this time to make an apparently uneventful recovery.

The spinal fluid in the first reported case was in all respects negative save for a pressure of 270 mm of H_2O. The second patient exhibited 30 lymphocytes per cubic meter spinal fluid, later rising to 50 cells, the other findings being not particularly striking, save for an elevation of pressure to approximately 250 mm. The third patient exhibited spinal fluid findings compatible with encephalitis and consisting of 50 cells per cubic mm. Serological tests in these patients have not been completed. The first individual was considered at one time also to have been a possible case of a transitory basilar artery thrombosis. In view of the presence of the others of undoubted encephalitic origin, the possibility of encephalitis as explanatory for the first case must also be given serious consideration. The status of the fourth case, the youth, remains as yet undetermined.

Comment

Four cases are presented of presumptive encephalitis, possibly atypical in form. It is suggested that the physicians of this area be aware of an apparently increased incidence of this disease. It is of particular interest that the wife of the first patient reported that a few days prior to onset of his illness a mosquito had been seen biting him on the bare back. Mosquitoes of a type capable of carrying encephalitis were isolated in the vicinity of the home of the second case reported. No contact with horses on the part of any of these individuals is noted, nor were any other members of their families or direct contacts with them in any way affected.

Summary

Four cases of presumed encephalitis are presented and the apparent increase in incidence of the disease in this part of the country is noted. The possibility of insect vectors is noted.

One case reported by courtesy of Dr. Bernard Pasternack.

Editorial Page

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The Editor sincerely solicits contributions of scientific articles for publication in ARIZONA MEDICINE. All such contributions are greatly appreciated. All will be given equal consideration.

Certain general rules must be followed, however, and the Editor therefore respectfully submits the following suggestions to authors and contributors:

1. Follow the general rules of good English, especially with regard to construction, diction, spelling, and punctuation.
2. Be guided by the general rules of medical writing as followed by the JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION.
3. Be brief, even while being thorough and complete. Avoid unnecessary words. Try to limit the article to 1500 words.
4. Read and re-read the manuscript several times to correct it, especially for spelling and punctuation.
5. Manuscripts should be typewritten, double spaced, and the original and a carbon copy submitted.
6. Articles for publication should have been read before a controversial body, e.g., a hospital staff meeting, or a county medical society meeting.
7. Exclusive Publication—Articles are accepted for publication on condition that they are contributed solely to this Journal. Ordinarily contributors will be notifed within 60 days if a manuscript is accepted for publication. Every effort will be made to return unused manuscripts.
8. Illustrations — Ordinarily publication of 2 or 3 illustrations accompanying an article will be paid for by Arizona Medicine. Any number beyond this will have to be paid for by the author.
9. Reprints — Reprints must be paid for by the author at established standard rates.

The Editor is always ready, willing, and happy to help in any way possible.

(The Opinions expressed in original contributions do not necessarily express the opinion of the Editorial Board.)

SPECIALTY BOARDS

THE COMMENTS on the role of the specialty boards in the paper by Dr. Russell Myers, reprinted from Perspectives in Biology and Medicine in the last issue of *Arizona Medicine*, have needed airing for some time. Dr. Myers's dim view of the departure of specialty examining boards from their original commitments is shared by an increasing number of physicians. It is noteworthy that "boarded" physicians are in the forefront of objectors. The spectacle of highly competent physicians, their competence attested by continuous top-notch performance in actual practice as well as by the respect of their critical colleagues, failing to pass the oral examination given by the Board of Internal Medicine raises serious doubt as to the validity of the examination. How far have the boards wandered from their primary task of examining and determining the qualifications of individual candidates who wish to be recognized as specialists in fact? Dr. Myers reveals some information about attitudes and motivations and "self-sealing doctrines" that prompts some of us to turn our board certificate to the wall.

C. R.

EDITOR'S NOTES

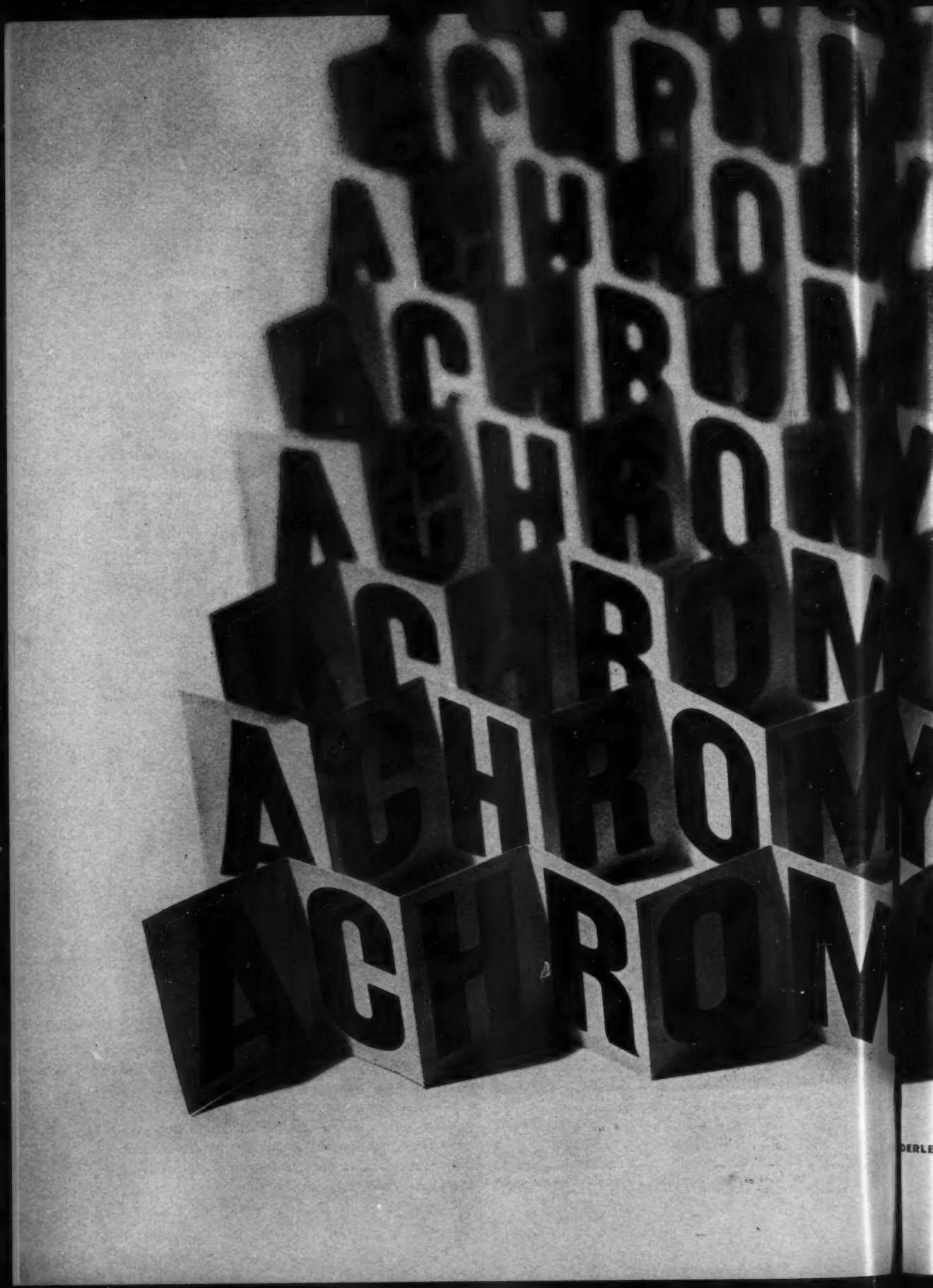
SYMPOSIUM ON CANCER OF THE COLON AND RECTUM

American Cancer Society
Scientific Session
October 1958

I. *Pathogenesis of Cancer of the Colon and Rectum:*
Dr. Elson B. Helwig.

THIS PAPER reviewed the morphologic and histologic evidence showing the relation of adenomatous polyps to carcinoma of the rectum.

One thousand four hundred and sixty colons were examined. Adenomatous polyps of the large intestine are usually true neoplasms and not a reaction secondary to a diffuse inflammatory process. Ulcerative colitis does not precede the adenomatous polyp, but carcinoma of the colon is more common in patients with ulcerative colitis.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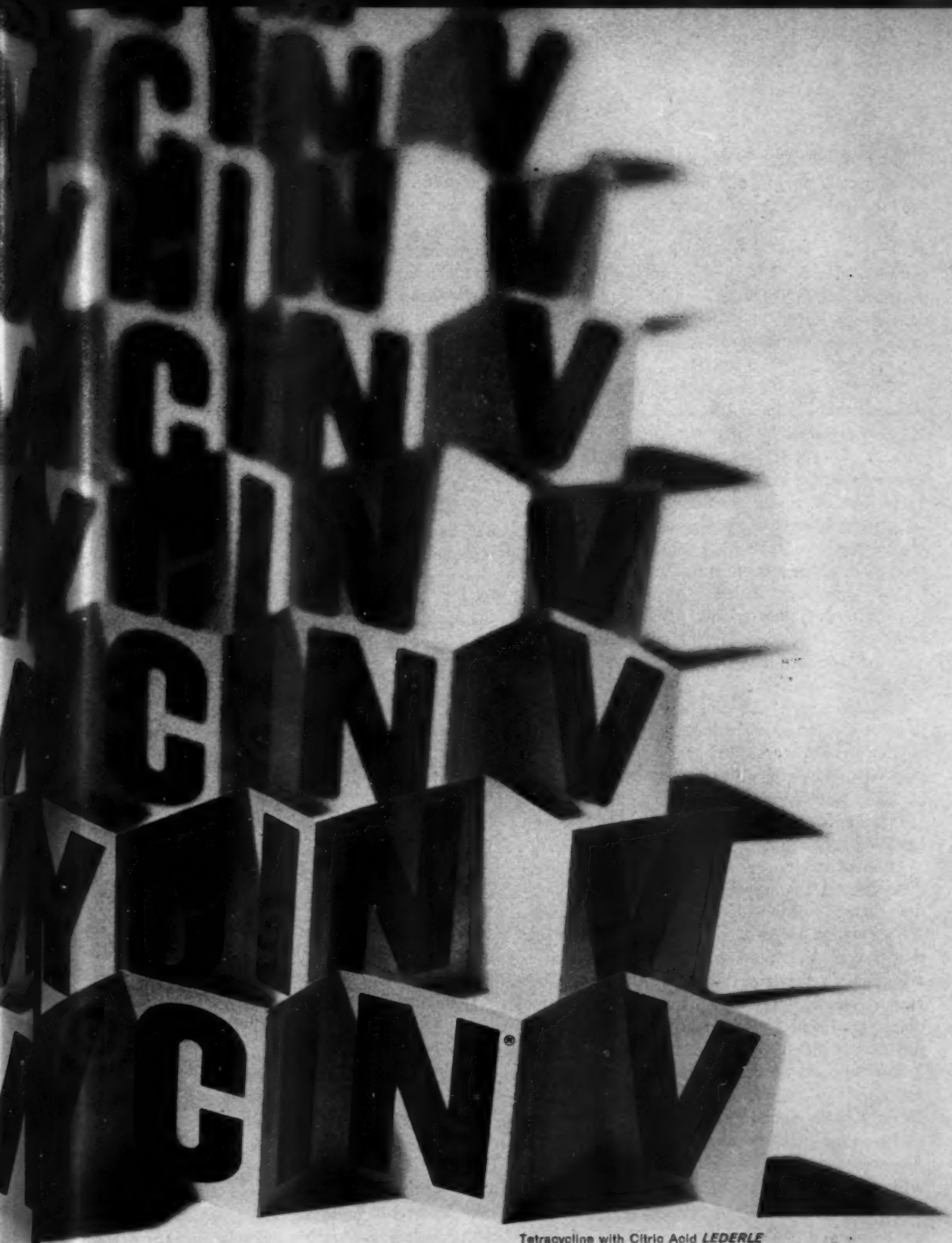


Tetracycline with Citric Acid *LEDERLE*

LEDERLE LABORATORIES, a Division of AMERICAN CYANAMID COMPANY, Pearl River, New York Lederle

Most carcinomas of the colon develop in adenomatous polyps, but some carcinomas arise directly from the mucous membrane. Adenamatous polyps and carcinoma of the large intestine show similar sites of predilection and both are common in older age groups. Approximately 45 per cent of them occur in the sigmoid and rectum, with the rest of these lesions being rather evenly distributed through the remaining segments of the large bowel.

As to the age distribution, 2 per cent to 3 per cent occur prior to the age of 30, and then 10 per cent each 10 year period from 30 to 70, with 20 per cent occurring in each 10 year period after 70 years of age.

He considers the criteria of malignancy as anaplasia, hyperchromatism, irregularity of the glands, and infiltration. There is also desmoplasia, i.e. a stimulation in the production of the basilar connective tissue. One must separate this from the desmoplasia that occurs in the benign polyp of a child. While desmoplasia is to be noted here also, this is not a malignant polyp in the child.

With invasion of the core or stalk of the polyp, there is the potential of metastasis. In a review of 100 of these cases, two were found to show evidence of lymph node metastasis.

II. *The Place of Viruses in the Pathogenesis of Cancer:*
Dr. Gilbert Dalldorf.

Although certain virus or viruses will produce tumors in animals, we have no evidence that a virus will produce a tumor in the human. This does not prove that the virus is absent, or that it can't or would not produce a tumor in a human. Some viruses have been isolated from human cancer, but there is no evidence that there is a casual relationship, but rather that this is an incidental finding.

Spontaneous mutations occur about one in every million mitoses. Additional mutations may be induced by radiation or viruses. There seems to be a linear relationship between the age of the organism and the number of spontaneous mutations.

The Virus Theory

Viruses and genes are very similar in size and in chemical composition, both are nulceo-proteins. One can postulate that the virus is literally an infectious gene and that the pathological virus will control cell protein synthesis. The virus may be incorporated genetically into the cell, divide as the chromosome divides, and result in an altered cell. Some of the properties of the cell are then due to the virus that has been incorporated in the cell, and yet the virus itself cannot be transmitted or cultured from the cell. This concept may account for the disappearance of the virus in the rabbit papilloma. The virus modifies the cell and it, in turn, is modified by the cell. This establishes a biological system that is suitable for the production of cancer.

III. *Inclusion Bodies of Possible Viral Origin in Chronic Ulcerative Colitis and Benign and Malignant Polyps of the Large Intestine*
Ferdinand C. Helwig, M.D.

The unfailing presence of desoxyribose nucleic acid (DNA) containing epithelial cytoplasmic inclusion bodies in polypoid carcinoma and adenomatous polyps of the colon and rectum in adults presents the possibility of a viral etiology. DNA is not nuclear debris, there is no cell degeneration, nor is it ingested material. Most viruses contain DNA.

Cancer of the colon, if it is associated with ulcerative colitis, occurs in a younger age group, i.e. 10 to 15 years earlier than cancer of the large bowel itself.

There is not infrequent association of idiopathic chronic ulcerative colitis and carcinoma of the large bowel. This suggested that similar inclusions may be found in the former. Fifty-seven per cent of ulcerative colitis cases studied showed such inclusions. Further studies showed that these inclusions might be found in early stages of chronic ulcerative colitis.

It would seem that ulcerative colitis is a precancerous lesion in possibly as high as 30 per cent of the cases. The possible viral origin of ulcerative colitis was considered as far back as 1935.

In this review, Dr. Helwig considered 12 cases of ulcerative colitis and all were early cases. He felt that probably chronic irritation might awaken a latent virus.

IV. *The Etiology of Carcinoma of the Colon and Rectum:*
Dr. Cuthbert E. Dukes.

This paper dealt with the relationship of the etiology of cancer of the colon and rectum in its pathogenesis. Apart from etiological factors which apply to cancer in general, there are some factors of special or local character which seem worth further study, such as heredity, re-

parative processes, "bad habits," and "carcinogens from the kitchen," though it is unlikely that these will explain more than a small fraction of cancers of the colon and rectum.

Cancer of the colon is extremely rare in any other animal than man. In the rat it is only noted in association with prolapse of the rectum, in the pig it does occur, but is not common.

Carcinogenic agents can stimulate gastrointestinal tumors but they are required in such large doses in experimental animals to literally be at toxic levels. Irradiation can produce gastrointestinal tumors.

There is a long, latent period between the application of the carcinogen in the development of the tumors. This is possibly 10 to 15 years.

Three customs of the human such as cooking, the ingestion of medicine, and the use of preservatives may enter into the development of gastrointestinal cancers.

Superheated fats could prove to be carcinogenic. however the temperatures used in cooking are rarely great enough to produce a carcinogenic fat. Liquid paraffin (mineral oil) seems to be in common use in patients developing carcinoma of the large intestine and yet there was no real relationship established with the enormous use of mineral oil during the period of 1905 to 1910. Certainly women use it more than men, and yet cancer is more common in the male.

Hereditary factors may play a role, and yet we have established only one specific association and that is in familial polyposis. In this disease, cancer does commonly develop, but it is not the cancer that is inherited, it is the polyposis of the colon. There certainly is an increased incidence of the benign rectal polyps in certain families. Possibly this is due to the transmission of a virus from one generation to the next. Or there may be a genetic imbalance in certain families with increased incidence or tendency to the development of cancer.

Roundtable Discussion of Drs. E. Helwig, Dalldorf, F. Helwig, and Dukes:

Dr. Helwig does not concur with Dr. Ackerman's contention that there is no relationship between polyps and cancer of the colon.

To date there has been very little effort expended to induce human tumors by the injection of a virus or viruses. Considerable work would be necessary along this line because there is a species specificity, a site specificity both of which make human injection extremely difficult.

Dr. Ferdinand Helwig found the inclusion bodies in ulcerative colitis and in the adenomatous polyps, but was not able to demonstrate these in any other of the inflammatory lesions of the colon.

Dr. E. Helwig has frequently found skip areas of cancer in the stalk of the polyp. He considers carcinoma-in-situ to be a non-clinical cancer.

Dr. Dalldorf pointed out that the toxin produced by the diphtheria bacillus is really due to the virus that is present and carried within the diphtheria bacillus.

The patient who develops chronic ulcerative colitis must be watched closely, for if a malignancy develops it will be an atypical type, grossly and histologically, it will be very anaplastic, highly malignant and will occur at an earlier age than cancer is usually noted in the colon.

It was the consensus of the group that surgeons are now operating upon patients with ulcerative colitis at an earlier age than they have in the past.

V. *The Value of Proctoscopic Examination:*
Dr. Rupert B. Turnbull.

The principal value of proctoscopic examination is realized when a cancer of the rectum is discovered in a symptomatic patient. Mass examination of thousands of asymptomatic patients has resulted in the finding of but few cancers. The ultimate goal in cancer detection is the education of physicians to utilize this method of examination more frequently in patients with symptoms of the colon and rectum. He recommended the use of a tilt table, and having suction immediately available. In 13,600 proctoscopic examinations done as routine procedures, only three cancers of the lower bowel were found and two of these occurred in symptomatic patients. In their series of 70 patients with polyps, six had cancers. They treat all polyps by local excision. He considers the posterior wall of the rectum a relatively blind area on proctoscopic examination. He does not recommend an enema in the prep for the patient with symptoms, but strongly encourages repeated examinations in the symptomatic patient, if that is necessary to make a diagnosis. If the symptoms are so severe and the irritations so great, it may be necessary to use an anesthetic.

VI. *The Technic of Proctoscopy:*
Dr. Raymond J. Jackman.

About 70 per cent of all diseases that involve the entire five feet of large intestine can be diagnosed by means of proctoscopy. By this he means that 70 per cent of polyps, cancers, etc., are within reach of the proctoscope. X-ray studies of the large intestine should be contingent on proctoscopic findings. He recommends the use of local anestheisia and having the patient strain after the scope is well in. He strongly encourages two soapsuds enemas within two hours of the time of doing the proctoscopy, fully realizing that many others prefer no enemas. It must be realized in recording the data that a soapsuds enema will cause injection of the mucosa.

VII. *X-Ray Examination of the Colon and Rectum for Cancer:*

Dr. Fred J. Hodges.

This paper reported a 30 per cent, five-year survival in malignancies of the bowel. Some iodine can be used in the presence of incomplete bowel obstruction, and this may be a help in diagnosis. The right colon is notorious for silent lesions.

VIII. *Exfoliative Cytology in the Diagnosis of Cancer of the Colon:*

Dr. Howard F. Raskin.

The study of exfoliated cells is a valuable and reliable method for the detection of adenocarcinoma of the colon beyond proctoscopic range. In a series of 192 patients, malignant cells were recovered in 39 of the 41 patients with proved cancer. Eleven of theese patients with positive cytology had negative or inconclusive x-ray studies. Recognition of the malignant cells is not difficult, provided adequate preliminary cleansing of the colon can be obtained. Patients with ulcerative colitis, strictures, and ileocolostomies are the most difficult to prepare.

Cleansing enemas of normal saline solution, using 2,000-2,500 cc are used. The foot of the bed is elevated on shock blocks, initially the patient lies on his left side, then on the back, then on the left side and this is repeated three or four time. Folowing this, there is a wait of about two hours before giving the diagnostic enema. Dulcolax is used, which is quite effective orally, giving three or four of the 5 mgm. tablets on the night before the enemas, and a suppository at 7 a.m. This is then followed by the above listed cleansing enemas and the diagnostic enema. The diagnostic enema is given through a proctoscope which has been inserted to the level of 15 cm., and through this an Ewald tube is inserted for about 10 additional cm. About 800 cc. of normal saline solution is injected rapidly, the patient is put on the left side, onto the back, to the right side, to the back, to the left side. The Ewald tube is unclamped after this rotation of the patient. The specimen is centrifuged and the cells stained. The entire procedure is done twice. Raskin finds that malignant cells have red nucleoli, they are large nuclei with a small amount of cytoplasm and large vacuoles. He claimed a correct diagnosis in 96 per cent of the series, and credited radiology with only 76 per cent correct diagnosis. There seems to be very little difficulty in the interpretation of the cells, except in some cases of ulcerative colitis.

IX. *Early Clinical Manfestations of Cancer of the Colon and Rectum:*

Dr. Henry L. Bockus.

Early detection of carcinoma of the colon and rectum has very great importance. First and fortunately, diagnostic procedures directed toward the colon for the detection of neoplasm have great accuracy. Second, the cure rate for cancer here is greater than that for any other part of the alimentary tract. Third, discovery of the tumor soon after the first symptoms appear unquestionably increases the likelihood of cure. Consequently, physicians and laymen must be ever alert to early clinical manifestations. Simply stated, they include: (1) change in bowel habit; (2) abdominal or rectal pain or discomfort often related to defecation; and (3) the discharge of blood with the stools.

In a review of 418 cases, pain was the first symptom in 76 per cent of the right colon cases, the first symptom in 41 per cent of the left colon cases, and 24 per cent of the sigmoid carcinomas. This pain was characterized by moderate cramping and relieved by defecation or passing of flatus. Eighty per cent of the rectal cases had bleeding and in 37 per cent of them it was their first symptom. Forty-nine per cent of the left colon cases bled and in 26 per cent it was their first symptom. Thirty per cent of the right colon had bleeding, and in 7 per cent of the right colon cancer cases, it was the first symptom.

Change of bowel habit occurred in 71 per cent of the rectal cases and in 42 per cent of the rectal cases it was the first symptom. Sixty-nine per cent of the left colon cases had a change in bowel habit, and in 36 per cent it was their first symptom. Fifty-four per cent of the right colon cases had a change in bowel habit, and it was

the first or presenting symptom in 13 per cent.

Bowel obstruction was present in 11 per cent of the patients when they were first seen. There was a weight loss of more than 10 pounds in 38 per cent of the patients. Metastasis was present in 7 per cent to 16 per cent of the patients when they first came in. A mass was palpable in 30 per cent to 60 per cent of the cases. Twenty-four per cent of all cases were anemic, 10 per cent of all cases had anemia of such severity that it was a cause for the presenting symptom. Of the 418 cases there were precursor lesions present in 9 per cent.

Panel discussion by Drs. Turnbull, Jackman, Hodges, Raskin and Bockus:

Six and a half per cent of the patients had multiple lesions of the colon. They encouraged a barium enema, even if diagnosis was made of cancer of the rectum, in view of the multiplicity of lesions. All agreed that it is extremely hard to find and diagnose the lesions at the time of surgery. Bockus felt that there was no inter-relationship between the development of pseudo-polyps in ulcerative colitis and the development of cancer. Further, only 10 per cent to 20 per cent of the ulcerative colitis cases developed pseudo-polyps. At the University of Pennsylvania, they had no cases of cancer in patients with pseudo-polyps.

All of the participants agreed that if cancer occurs in an ulcerative colitis patient, it will occur unusually early.

In cases where there is a co-existence of diverticulosis, diverticulitis and cancer, and certainly these problems can co-exist, Raskin felt that cytology was sufficiently accurate to permit a differential diagnosis of the problems present. It is his decision to do cytology if the patient's diagnosis will be made with difficulty from the clinical or roentgenographic point of view. If the lesion is above the level of the proctoscope, x-rays are questionable, and if there is obscure bleeding, cytology would be preferred in approximately 10 per cent of the cancer of the colon cases. They get more cells from right colon lesions than from left. Further, Raskin has found that cytology is helpful in differentiating amoeboma. He has no false reports on right colon lesions.

Jackman has seen tears in four occasions at the site of anastomosis by passing the scope above this level.

Bockus feels that obstruction from a malignancy does not preclude a cure in that case. The pain present is a result of motor dysfunction.

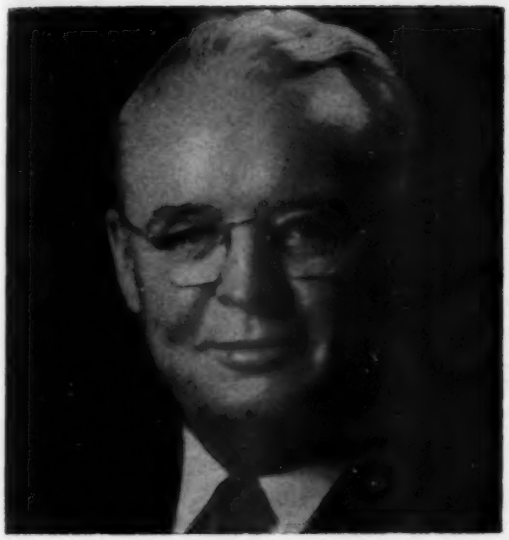
Serosal involvement causes severe radiating pain.

(To Be Continued)

FRANK J. MILLOY, M.D.

1894-1958

AN APPRECIATION



Frank J. Milloy, M.D.

DR. MILLOY was born March 1, 1894 near Omenee, N. D. Something of the coldness of that area made him reserved; this cloaked a warm, courageous interior.

In those early day he made many friends and one of them has written, "I have known Tommy (as we called him) since 1911, when he was in high school at Omenee, N. D. He was a good student and an outstanding basketball player in his high school days. We attended the University of North Dakota beginning in 1912, he was a very popular fellow at the university, he belonged to the Senigoy Fraternity, in which he was very active, was a member of the university band, and was considered an excellent student."

Another fellow Dakotan recalls that Dr. Milloy was a very conscientious student, and his college and medical school record was enviable. Here it should be noted that Dr. Milloy began at the University of North Dakota to study law. It so happened that his roommate was a medical student, and Dr. Milloy became so fascinated by the anatomy and physiology books that he neglected his law studies and later returned to the academic school and took some pre-medical work so that he was able to enter the medical school. After two years of medical study at North Dakota, he transferred to Northwestern University, where he graduated from the School of Medicine in 1920.

Dr. Milloy spent about two years at the Mercy Hospital, in Chicago, on the service of Dr. Sippy. His training was received under a notable pioneer in gastroenterology; a regime still carries Dr. Sippy's name. His was the first class at Northwestern Medical School required to have an interneship before they received the M. D. degree.

Among Dr. Milloy's papers was found a short note concerning Dr. Sippy. It might be interesting to those of us who were trained in a later generation of medicine. Dr. Milloy wrote, in part: "Dr. Sippy was a chemist and a keen research observer as well as a great clinician. The result was that his firm convictions on the subject of peptic ulcer were proved in the laboratories as well as in the living patient. In his heyday, Dr. Sippy had a hospital service averaging 200 patients, about 25 per cent of whom were peptic ulcer patients.

"There were those investigators in Sippy's time who believed that free hydrochloric acid in the stomach had no connection with the development or presence of ulcer. Dr. Sippy's classical quotation: 'Whatever the future may reveal as to the causes of ulcer and the influences that retard its healing .. . results . . . may be obtained by maintaining an efficient neutralization of free acid . . .' has withstood the test of time. Dr. Sippy demonstrated that the three chemical agents which produced this condition in the greatest number of patients were calcium carbonate, sodium bicarbonate, and magnesium oxide.

"Sippy recognized the beneficial influence of gastroenterostomy in bringing about a remission of gastric and duodenal ulcer symptoms and a reduction in acidity, and particularly through accelerated emptying of the stomach, thus reducing the duration of the corrosive action of the gastric juices. He demonstrated that the real cures, or the wonderful relief of symptoms was

directly proportional to the amount of pyloric obstruction produced by scar tissue narrowing the pyloric ring. Dr. Will Mayo once remarked that if he had an ulcer of the stomach, he wanted to be treated nine times medically before he would submit to surgery."

During his second year on the service of Dr. Sippy, Dr. Moorehead, chief of staff of Mercy Hospital in Chicago, received a letter from Dr. E. Payne Palmer Sr. of Phoenix, Ariz. Dr. Palmer was searching for a young man training in internal medicine and gastroenterology to serve with him on the staff of the Southwest Clinic which Dr. Palmer had organized here in Phoenix.

In 1921 Dr. Milloy accepted this position with the Southwest Clinic and was associated with the clinic and with Dr. Palmer all during the time that this clinic was extant.

In 1922, Dr. Milloy married Ola Sue McCabe of Columbus, Neb. They met when Miss McCabe was a student nurse at Mercy Hospital. She graduated and received her degree in nursing from Northwestern Medical School. To the Milloys were born three children: Frank Jr., a physician in Chicago, and, like his father a graduate of Northwestern; and two daughters, Mary Elizabeth Milloy of San Francisco, and Mrs. Kathleen Mulligan of San Diego.

Mrs. Milloy relates that there were some interesting experiences in Phoenix in that day, and some of the calls of Dr. Milloy made in the country to visit patients. On one occasion she accompanied him up Black Canyon way and they were forced to abandon the automobile and ride a horse across a swollen wash to reach the patient. They stayed all night before returning to Phoenix the next day. Mrs. Milloy suggests this was not altogether a proper experience to undergo while wearing a new spring suit.

On another occasion, while they were in church on Sunday morning, Dr. Milloy received an emergency call from over toward Buckeye. After making the drive of about 30 miles, they came to a camp of cotton pickers, and all from the fair state of Texas. It developed that a two-year-old boy had been bitten on the thigh by a rattlesnake. The Texans were parading the snake around to demonstrate to all hands what a magnificent five-footer he was, and not too much attention was being paid to the youngster. Dr. and Mrs. Milloy worked with the child until four o'clock in the afternoon. During this time they had put him in cold packs in order to keep the fever down and stop convulsions, and had given the child sips of strychnine and alcohol. The latter at least should have been pleasing to the Texans. Then it was decided, about four in the afternoon, that they should have something for Dr. and Mrs. Milloy to eat. She remembers that they came back from Laveen with a loaf of bread and some tomatoes. This, together with some so-called coffee, was the repast. While they sat at the table eating, closely scrutinized by the onlookers, Mrs. Milloy felt something nibble at her shoe. She felt that it was undignified to turn around and look under the table so she managed to get through the meal. She was relieved to find that it was only chickens under the table pecking at some ornaments on her shoes.

The child was apparently improving, so they returned to Phoenix.

This medical adventure has an interesting finale. The Texan came in with his son the next morning and informed Dr. Milloy that he would now take his boy to his own doctor where he could get some good treatment. Such are the fortunes of practicing medicine.

In 1929, Dr. Warner W. Watkins organized a group of clinicians into what is now called the Clinical Club of Phoenix. Of the first six, Dr. Milloy was a member, this was later enlarged to 12 and from 1929 until the present, this group has met regularly to discuss Cabot cases from the Massachusetts General Hospital. One of Dr. Milloy's associates related that Dr. Milloy attended these meetings faithfully during the last two years of his life, discussed these cases with great clarity, even though his health was failing rapidly.

In 1935, Dr. Milloy was certified by the American Board of Internal Medicine – further evidence of his professional proficiency.

At about this time he began investigating cases of amoebiasis. Little attention had been paid to this disease in this country prior to the outbreak in Chicago during the World's Fair. His enthusiasm in this direction may have been overactive. Nonetheless he awakened his fellow practitioners to the presence of the disease in Arizona.

Some of the senior practitioners will recall, before World War II, when theology and medical principals collided, he stood with his fellow physicians!

Another first of Dr. Milloy's is that he obtained and administered the first penicillin used in the Valley. This was during World War II when

penicillin was restricted to use by the armed forces. The request went through all of the devious channels to the President and the penicillin was flown to Phoenix in an air force plane. (At least this was a desirable mission for an air force plane, some of us will recall that these planes, on occasion, flew Elliot's dogs.)

Dr. Milloy is given credit for introducing blood transfusion work into Arizona. This was the days of the direct transfusion methods. Those of you who can recall the Unger apparatus and the trials at keeping it clean and in working order will know that giving a blood transfusion differed slightly from the present method of simply placing the request on the patient's chart. One of his associates in the clinic in those early days has stated, "Frank went his way quietly and did his work in an expert fashion. He never got riled up and was always courteous to his associates and colleagues. He was always willing to give any service that was at his command for a patient and seemed always to 'get a kick out of his work'. His work was thorough and he was able to keep up with all medical advances."

Dr. Milloy was always very active in The Arizona Medical Association and was elected secretary in 1942. In 1944, he and Drs. J. D. Hamer and B. F. Harbridge, as editorial committee, began the publication of *Arizona Medicine*, the Journal of The Arizona Medical Association. The editorials of the first volumes of this Journal range over a good many subjects and the first one concerns the birth of *Arizona Medicine* itself. Dr. Milloy wrote, "When the governors of *Southwestern Medicine* found it necessary to discontinue publication of *Southwestern Medicine* for the duration, the state society took the opportunity to publish a journal devoted entirely to the State of Arizona. While we regret deeply the loss of our many friends in New Mexico and El Paso, nevertheless the members of the state medical profession have long felt the need and necessity of its own journal. *Arizona Medicine* will be published bi-monthly." After the war was over, an attempt was again made to re-establish the publication of *Southwest Medicine* to embody *Arizona Medicine;* this was strongly opposed by Dr. Milloy, and the continued publication of this Journal is due, for the most part, to his efforts.

In this first issue, Dr. Louis B. Baldwin of Phoenix described the organization and origin of the Salt River Valley Blood Bank. There are some who have apparently forgotten the diligent work undertaken by Dr. Baldwin and his associates of the Maricopa County Medical Society in the organization of this institution.

The first two volumes carried letters from various members of the state association who were in the armed forces.

The U. S. Public Health Service, in co-operation with the office of civilian defense, organized an affiliated base hospital unit in co-operation with St. Joseph's Hospital of this city. Dr. Milloy was appointed director of the unit with the USPHS rank of senior surgeon. He continued to hold this reserve rank in the public health service until his death.

Dr. Milloy continued to publish and edit *Arizona Medicine* until 1952. He was so modest and such a quiet worker that few knew of his contributions to the organization of the state association and its Journal.

An editorial which he wrote for the January 1947 number of this Journal might well be considered the code by which he lived. It was entitled, "Professional Courtesy."

"No professional group is more entitled to hold heads high in praise of accomplishment than doctors of medicine. Probably no group is subject to more criticism by the laity, nor is the object of more sweeping legislative revolution. Only by unity of purpose, highly ethical conduct, and meticulous attention to the welfare of the patient, regardless of his economic status, can the profession hope to ride out the storm now raging.

"Unfortunately, a few individual physicians have extremely bad taste in criticizing the care contemporaries have given patients, openly to the patients and to their relatives. The preogative of a patient to change to another physician is a sacred one. However, it is indeed unbecoming for the new physician to imply either by word or insinuation that the former physician was incompetent. Such conduct is unprofessional, unethical and reprehensible and serves no real purpose except to promote distrust of the medical profession as a whole. The old adage, 'If you can't say anything good about a person, say nothing,' still holds good. The Golden Rule will never become obsolete."

From the hills of North Dakota, to the Valley of the Sun, Frank J. Milloy set a high standard of personal and professional conduct.

JOHN W. KENNEDY, M. D.

THE RATIONALE FOR THE USE OF VITAMINS IN FORESTALLING INFECTIONS

Many clinicians believe that good nutrition plays a significant role in preventing bacterial infections, and that immunity depends on adequate vitamin levels. Tisdall[1] states that "a low intake of a number of vitamins, a low intake of minerals, and a change in the quality of protein can all lower resistance to infection."

Other studies show the important role of the B vitamins in antibody formation. Thus, *Nutrition Reviews*[2] reports: "Present evidence indicates that certain B vitamins, notably pyridoxine, pantothenic acid and folacin, play a significant role in antibody synthesis." According to Pollack and Halpern,[3] "Under-nutrition leads to increased susceptibility to infection and decreased resistance to established disease." And "vitamin deficiency states also may adversely influence circulating antibodies."

Halpern[4] reports that "good nutrition is important for optimal resistance to infection, for a superior tissue capability to cope with disease and injury, and for maximum antibody production . . . nutrition participates in the prophylaxis against most acute infections . . ."

And while MacBryde[5] feels that evidence is lacking to support the view that a higher than normal intake of vitamins will improve resistance to infection, he also states: "Restoration of nutrition to normal exerts a favorable influence on practically all disease conditions . . . Often the outcome will depend more upon the correction of the malnutrition than upon any therapy directed toward the malady."

Topics of Current Medical Interest

SUSPECTED ACTIVE TUBERCULOSIS

REPORTING

IN THE INTEREST of good medical practice and in order to give support to our state and local health departments in determining the health status of cases reported to the health department, the following resolution was proposed by the professional board and adopted by council of our association:

"That in cases of suspected active tuberculosis, the physician in charge of the patient submit to the Arizona State Department of Health a report on a chest film, certified and signed by a qualified practitioner of medicine; that the physician also submit a report on a series of three gastric washings by a qualified laboratory, signed by qualified employes; and that such procedures be carried out within 30 days of the request."

The above resolution is the outcome of difficulties that have repeatedly occurred in the proper evaluation of tuberculosis patients reported to the health department as active cases from other states or other proper reporting authorities.

PROGRESS REPORT FROM THE ARIZONA POISONING CONTROL INFORMATION CENTER AT THE UNIVERSITY OF ARIZONA COLLEGE OF PHARMACY

*Treatment of Barbiturate Poisoning: Analeptic Therapy vs. Supportive Therapy Alone**

TWO SCHOOLS of opinion exist with regard to the proper treatment of acute barbiturate poisoning.

One group contends that there is no method of general systemic stimulation which provides an adequate substitute for the direct physiological treatment of the depressed respiratory and circulatory systems accompanying barbiturate intoxication. Hence they consider supportive therapy alone as the treatment of choice. They point out that the use of analeptics is not without danger, since these agents increase the brain's oxygen demand in the presence of a condition of anoxia and, further, that these drugs are convulsant poisons. Available statistics indicate that the mortality rate among patients in coma from barbiturate poisoning who have been treated with analeptics has been higher than among comparable subjects treated without central nervous system stimulants.

In Copenhagen, Denmark, a special center for the treatment of drug intoxication employs the conservative supportive method to treat barbiturate poisoning. In this treatment, the gastric contents are not aspirated unless the poison has been ingested within four to five hours and the pharyngeal and laryngeal reflexes are preserved. The patient is placed in a slight Trendelenburg position and is turned over every four hours. A hollow tongue depresser is inserted, through which oxygen is administered continuously. Penicillin is given prophylactically, and the fluid balance is maintained. Shock is treated with whole blood or a plasma expander such as Dextran. The airways are kept free at all times. If respiratory paralysis develops, artificial respiration is given.

The second group, the proponents of analeptic therapy, admit that not all patients suffering from barbiturate intoxication require a central stimulant and agree that such agents very often are used without sufficient justification. On the other hand, they emphasize the value of analeptics in properly selected cases and suggest a diagnostic test to determine the latter. In this test, small amounts (5 cc. of a 10 per cent solution) of pentylenetetrazol (Metrazol) are injected intravenously. If the patient responds with a return of reflexes or purposeful movements, depression is not great enough to warrant the institution of any therapy other than that of a symptomatic nature. If no response or only slight respiratory or vasomotor stimulation occurs, then specific treatment should be undertaken. They consider that analeptics should be an essential part of this specific treatment, since medullary stimulation may mean the difference between life and death.

*The treatment of acute poisoning from barbiturates as recommended by the Arizona Poisoning Control Information Center's Advisory Committee can be found in the Poison Control Card File provided for each of the 18 Poisoning Control Treatment Centers.

STATISTICS OF 78 POISONING CASES IN ARIZONA REPORTED SINCE THE SEPT. 1, 1958, PROGRESS REPORT

Age	*Per Cent*	*Number*
Under Five Years	68.2	(53)
Six to 15	3.8	(3)
15 to 30	6.4	(5)
30 to 45	10.2	(8)
Over 45	6.4	(5)
Not reported	5.0	(4)
Nature of Incident:		
Accidental	80.8	(63)
Intentional	19.2	(15)
Outcome:		
Recovery	100.0	(78)
Fatal	0.0	(0)
Time of Day:		
Between 6 a.m. and noon	33.3	(26)
Between noon and 6 p.m.	29.5	(23)
Between 6 p.m.-midnight	29.5	(23)
Between midnight-6 a.m.	1.3	(1)
Not reported	6.4	(5)
Causative Agents:		
Aspirin preparations	29.5	(23)
Insecticides and rodenticides	17.9	(14)
Solvents (gasoline, kerosene, paint thinner, Pine-sol, etc.)	15.4	(12)
Sedatives (barbiturates, meprobamate (Equanil), hydroxyzine (Atarax).	15.4	(12)
Household cleansers (Chlorox, Sani-Flush, lye)	3.8	(3)
Botanical products (Bird of Paradise, toadstools, mushrooms)	2.6	(2)
Matches (tips of book matches and "strike-anywhere" matches)	2.6	(2)
Miscellaneous: (Ex-lax, potassium permanganate,, Kyrex, Free Wax, moth balls, iron tablets, etc.)	12.8	(10)

AMA'S 1958 PR

IS MEDICINE aware of the changing events and shifting philosiphies on the American scene? Is the profession adapting its activities to changing concepts and changing needs?

To answer these questions, medical society representatives recently called upon four "experts," representing business, the insurance industry, labor and politics to air their views. An entire morning at the AMA's 1958 PR Institute was devoted to a give-and-take discussion of the problems in each of these important segments of American life to gain greater insight and understanding.

Chairman Hugh W. Brenneman, public relations counsel for the Michigan State Medical Society, set the stage for the discussion by asking each expert to discuss the most significant changes taking place in his field and explain how they relate to medicine.

The two major problems facing the insurance industry are extension of coverage to senior citizens, and the rising costs of health insurance, according to Morton Miller, New York, chairman of the Health Insurance Council.

Miller cited great gains in insurance coverage so that today 123 million people—seven out of 10 persons—have some protection. Americans have a wide range of coverages from which to choose, he said, but pointed out that ultimately the government may have to help those who are unable or unwilling to allocate enough of their funds for health benefits after retirement.

"The real challenge here is to find a way of doing so which will cause a minimum of disturbance to our fine system of private medical care and voluntary medical or health insurance," Miller said.

In discussing unnecessary costs, Miller said the insurance industry and the medical profession have a responsibility to remove them, whether they arise from abuse or from ineffective use of medical facilities and medical service. It is the doctor who determines the quality and quantity of the patient's medical care and consequently he controls the way in which health insurance as a means of financing health care works out.

Calling for co-operation, Miller said the public and the medical professioin alike must understand what health insurance can and cannot do, how much it means to everyone, and what responsibilities it places on each individual.

Public More Health Conscious

Leo Perlis, New York, director of community services activities for the AFL-CIO, said that changes in the science and practice of medicine as well as more health education resulting in a more health-conscious public, has created many medical economic problems. Other factors contributing to these problems are the growth of collective bargaining and the extension of trade unionism, the acceptance of responsibility for the workers beyond the plant gates by both labor and industry, population increases, moves to the suburbs, automation and added leisure time.

Perlis said that even though tremendous gains have been made in extending insurance coverage, labor is not yet satisfied with what has been accomplished. Labor will not be satisfied until there is greater coverage with more benefits and action.

"The issue we face today is not whether medical care is going to be provided voluntarily by insurance companies or by some governmental health plan, but how can we make voluntary plans work? The real issue is — do we keep our minds open to all possibilities?" Perlis said, underlining his own belief in voluntaryism as "the heart and soul of a democratic society."

As keys to greater success in working for better medical care, Perlis called for participation, identification and experimentation. Labor has great respect, he said, for the medical profession's know-how and devotion, but all people concerned with medical care — labor, industry and others — should serve on boards of those organizations providing medical care, with all groups participating and no group dominating.

Labor has identified itself with the public good, Perlis said, and medical societies also should become identified as community organizations working ofr the public good.

"The need for continuing, constant experimentation in the economic laboratories exists if we are going to make voluntary plans work. We need experimentation on plans not only to provide medical and surgical care in hospitals, but home care, dental care, psychiatric care and nursing care," Perlis concluded.

The Hon. Thomas B. Curtis, congressman from the second Missouri congressional district, cited three basic economic factors in American life to-

day — suburbanization, an economy of plenty, and a fast-growing population.

Our increased cost of living, Curtis said, in many cases indicates an increase in the quality and standard of living. Among these increases are better medical care and longer life.

"People get an awful lot more for $1 of medical and hospital care today than they ever got before," Curtis said. "I think one reason hospital costs are going up and have gone up is that the patient now comes out on his own two feet, instead of in a coffin — and his hospital stay is less because of it."

Years of added life, according to the congressman, is levying a tax of inflation on America's older citizens, creating an economic problem. One solution to reduce this problem he suggested was to build modern nursing homes which can care for the aged at a reduced rate.

Curtis said government will always play an active role in solving any social problems, but he stressed the importance of the individual's role in bringing about improvements. He said the two-party system in American government is breaking down and urged the interest of medicine at the "grass roots" in governmental activities.

"Keep a broad outlook, get the word out on specific issues, give congressmen the benefit of your beliefs, and honest debate," Curtis concluded.

"Recession Neurosis"

Jules W. Lederer, Chicago, president of the Autopoint Company, told the audience that public relations is a selling proposition based upon listening and communicating.

The most significant change in business today, he said, is the consistency of change. He cited industry's dilemma in an era of increasing costs and uncertain market. Profits are down, he said, and yet industry constantly is required to raise wages and give added fringe benefits. Capital expenditures have been reduced, he said, and all of this has developed a "recession neurosis" in management.

Necessary layoffs have caused increased feelings of insecurity on the part of remaining employes, Lederer said, and this feeling is being transmitted to the buying public, thereby depressing purchasing. The business executive said he felt the recession will last for another 18 months or longer. Though management is trying to solve these problems, he said he believed there were difficult days ahead for both business and labor.

Lederer said he thought the uncertainties of our economy were creating widespread neuroses and insecurities in the nation and probably were putting an additional strain on the family doctor and hospitals.

Lederer agreed with Perlis that there will be increased participation of government in medical care provision and that the medical profession should do a better public relations job of telling the advantages of our voluntary system and pointing the way for the future.

GOVERNMENTAL ACTION RELATED TO MEDICINE

RUSSIAN REHABILITATION EFFORTS IMPRESS SOCIAL SECURITY ADMINISTRATOR SCHOTTLAND

SOCIAL SECURITY Administrator Charles I. Schottland, back from a one-month tour of Russia, is impressed with the Soviet Union's progress in rehabilitation and care for old people. Based on his own observations and data furnished him by the Russians, Mr. Schottland reports:

1. Russian researchers have prepared separate pamphlets on each disabling disease. Mr. Schottland is having these translated for the information of the medical advisory committee on disability.

2. About a third of old people in Russian institutions are working on a voluntary basis, but for pay. He thinks that perhaps nursing homes and other institutions in tihs country can make more progress in this direction.

3. Nurseries and old peoples' homes in Russia are "excellently" staffed, with one employe for about every three old persons, and one for every two and one-half children.

Mr. Schottland says that about two-thirds of the Russian population is covered by social security, paid for entirely by the employers (government runs all large enterprises). He made the point that a comprehensive social security program is almost a necessity for the Russians, inasmuch as under their socialistic state, wages are about the only source of income and when wages stop, the people can look only to social security.

Also making the tour were Victor Christgau, Robert J. Myers, Corinne H. Wolfe and Arthur E. Hess, all social security officials. A similar Russian group will tour the U.S. shortly.

COMPLETE REPORT ON LAST SESSION'S LEGISLATION NOW AVAILABLE

The Washington office of theAmerican Medical Association has prepared a 32-page special report giving the essential information on all medical legislation introduced in the last (85th) congress. The report contains a listing of the 19 major bills enacted, the bill numbers and the public law numbers. It has a page index of all the 704 bills followed by the office, an index by subjects, a description of each bill and what action, if any, was taken on it by congress.

A copy will be mailed to anyone requesting it. Write to the AMA Washington office, ask for Special Report 85- 14.

The special report notes that in the past year the American Medical Association was fortunate in its legislative work. It supported most of the 19 major bills passed by congress, and not a single major bill opposed by the association became law.

In reviewing the year's legislative activities, the report declares:

"These pages are specific evidence, if any is needed, that medical legislation is one of the most popular areas of congressional activity. Each year this special report is a longer document, because more and more health and medical bills are introduced. Ten years ago, the Washington office was following 200 measures through congress; in the past congress, we kept watch on 704 medical bills and resolutions of the 20,604 total legislative proposals introduced during the two years of the 85th congress.

"This annual gathering together and tabulating of legislation serves a number of purposes. Its immediate value is as a sound source of information on exactly what measures were introduced and what happened to them during the past congress. Its long-range value is its disclosure of legislative trends over the years. An issue seldom comes to the fore overnight, or even in a year; but with a complete record available, an issue's evolutionary process can be traced to inception of the idea . . .

"Successful opposition to the addition of compulsory health insurance to the social security system occupied more time and effort on the part of AMA employes and physicians everywhere than any other one assignment. This proposal was strongly supported by organized labor, and without question will be pressed again next year. To meet this issue, the association has a positive program that will continue to bring private health care to all the population at a reasonable cost . . ."

IRS WON'T RULE ON CRITERIA FOR CLINIC TAX STATUS

Internal Revenue Service has decided not to make a ruling that would define basic criteria as a guide to group practice clinics in setting up retirement plans for their members. However, IRS announced that it would not discourage clinics from going ahead with plans for such re-

tirement programs. IRS, as well as the AMA's law department, advises clinics to obtain competent legal advice so as to avoid state and local as well as federal difficulties. The advantages of a retirement plan on a tax-deferred basis—which individual physicians are not privileged to set up — must be weighed against the fact the clinics also would be subject to federal corporation taxes of 52 per cent of profit.

QUESADA HEADS AVIATION AGENCY; IMPROVED MEDICAL SETUP SOUGHT

Appointment by President Eisenhower of Elwood R. Quesada as administrator of the new federal aviation agency, effective Nov. 1, increases prospects for strengthening the position of medicine in federal aviation activities. It is a recess appointment, subject to approval of the senate after the session opens in January.

When legislation providing for the new agency was before congress earlier this year, it had the active support of the American Medical Association. For years the AMA has been concerned with the deteriorating administrative position of medicine in federal agencies concerned with aviation problems such as examinations and human factors in plane design and operation. It anticipated that in an entirely new government organization, medicine would be given its proper role.

The AMA is proposing the federal aviation agency set up an office of civil aviation medicine to consist of the offices of civil air surgeon, regional flight surgeons and civil aeronautics medical research. The chief medical officer would report directly to the agency's administrator. In making the recommendations, the AMA stated:

"The purpose of these recommendations is to establish a completely adequate civil aviation medical program and to improve safety in air commerce through the development and application of sound medical knowledge and research in civil aviation and include such factors as standards of physical and mental fitness for airmen and methods of medical assessment and certification and medical advice on human requirements in aircraft design and operation."

Because the law specifies that the administrator may not be affiliated with the military at the time of his appointment, Mr. Quesada will have to resign his commission as an air force lieutenant general (retired). The President, however, said he hoped congress would pass legislation making an exception. Mr. Eisenhower declared:

"Mr. Quesada has been active in the field of aviation for 34 consecutive years. After 27 years of active service in the air force, he was placed on the retired list of the regular air force in 1951, after which he became engaged in civilian activities as an executive in private inuustry. Since June 1957, he has served as my special assistant for aviation matters which included, among other things, the development within the executive branch of government of legislation which established the federal aviation agency. He has clearly demonstrated his unique knowledge of the complexities and needs of civil and military aviation in the present age. He possesses, in the highest degree, the qualifications to be the first administrator of the federal aviation agency."

HILL-BURTON REVIEWS FIRST 10 YEARS

The hospital and medical facilities section of the public health service has issued a booklet, replete with statistics and tables, giving the detailed story of the first 10 years of the Hill-Burton hospital construction program, 1946-1956. The report also briefly sketches the development of hospitals in the United States, pointing out, for example, that one of the first efforts was that of William Penn in 1713 and that later Benjamin Franklin devised a financing system somewhat like the Hill-Burton program itself.

NIH AWARDS $136 MILLION IN GRANTS IN YEAR

The National Institutes of Health awarded 9,534 grants worth $136 million for research, training and construction to non-federal institutions during the fiscal year ended last June 30. Grants went to 699 institutions including some in 28 foreign countries. More than two-thirds of the money was to support 7,028 research projects and $30 million was used to help build or expand 177 research facilities. Facilities grants must be matched. A total of $6.4 million was invested in research fellowships to 2,329 in this country and 84 abroad. In addition, federal money supported 16 foreign scientists working in this country.

SECRETARY FLEMMING WANTS TO SHIFT SOME PROGRAMS TO STATES

Secretary Flemming plans next year to ask congress to shift two grant-in-aid programs, water pollution control and vocational education, to the states. A similar idea was advanced last year, but it brought no reaction in congress, and eventually was dropped.

To help the states pay for the programs, the U.S. would forego 30 per cent of the tax it now collects on telephone service, and have the states levy that part of the tax. Last year Secretary Folsom pointed out that this wouldn't return enough revenue to the low-income states to finance the sewage treatment plants and vocational education efforts. To solve this problem, the federal-state joint action committee, of which Mr. Flemming is a member, proposes that the new state tax money be supplemented by outright federal grants equal to 10 per cent of the total phone tax now collected by the U.S. A per capita income formula would be applied to distribution, so low-income states would receive a higher percentage of this fund.

The two funds would amount to a total of $145 million annually. Now federal grants for them total only $85 million. The secretary emphasized the great need for water pollution control, and said the intention was not to sacrifice this or vocational education while shifting the work to the states. How far the Flemming proposal will get with congress is problematic; the change will be certain to be opposed strongly by telephone interests and vocational education people. The latter don't want any chances taken with their well-established programs.

WASHINGTON BLUE SHIELD STUDYING LOW-COST INSURANCE FOR AGED AND LOW INCOME

The Washington, D.C., area Blue Shield organization, at the request of the District of Columbia Medical Society, is studying the possibility of setting up a separate medical-surgical care plan for low-income groups, *including the aged,* that would provide the regular benefits but at a reduced premium. Dr. Donald Stubbs, Washington Blue Shield president and chairman of the national Blue Shield board of directors, said the income cutoff point couldn't be estimated until it was learned how many subscribers would be covered. However, he thinks the maximum family income to qualify would be about $3,000. Hospitalization would not be covered.

An outline of the proposal has been sent to the six medical societies in the Washington area for their consideration, and Dr. Stubbs says he has heard "nothing unfavorable." At present the Washington Blue Shield has one income cutoff point, $6,000. Premiums average $4.94 a month per family, and $1.56 per individual. Because the

new low-cost plan is merely in the development stage, no premiums have been decided upon.

Dr. Stubbs said somewhat similar arrangements exist in some other parts of the country, having evolved over the years as higher income groups have been charged higher premiums. Some plans, he explained, have as many as seven separate premium rates, based on income. He is not aware of any other plan that has attempted to handle the problem of insurance for the low income group by arbitrarily setting up a new and lower classification as proposed for Washington.

CHILEAN TO HEAD PAN AMERICAN SANITARY BUREAU

Dr. Abraham Horwitz of Chile has been named director of the Pan American Sanitary Bureau and will assume office next Feb. 1. He succeeds Dr. Fred L. Soper, who is rounding out his third four-year term. Dr. Horwitz is on leave as director of the School of Public Health, University of Chile. He received his medical degree from the university and a master's degree in public health from Johns Hopkins University. From 1950 to 1953 he served in the headquarters of PASB in Washington as chief of the professional education branch. Dr. Soper, who will be 65 in December, has been made director emeritus of PASB.

CIVIL AIR SURGEON POST PROPOSED BY FEDERAL AVIATION CHIEF

The position with title of civil surgeon has been proposed within the new federal aviation agency. The proposal by FAA Administrator E. R. Quesada would assure status for civil aviation medicine considerably higher than at any previous time under the Civil Aeronautics Administration. The American Medical Association has advocated such a position as the first step toward an adequate number of qualified medical examiners for airmen and other personnel, in the interest of passenger safety.

Directly responsible to the FAA administrator, the civil air surgeon would have as his major function the direction of the civil aviation medical program and the goal of improvement of safety in air commerce through sound medical knowledge and research in civil aviation.

As director of FAA medical activities, the air surgeon would establish and maintain working relations with public and private agencies concerned with aviation medicine. His responsibili-

ties would include: (1) establish minimum standards of mental and phyiscal fitness for flight personnel, air traffic controllers and other personnel, (2) provide medical exams for such personnel, (3) provide inspection and appraisal of examiner facilities to insure proper assessment of physical fitness, (4) promote training activities for medical examiners, (5) encourage research in aviation medicine, (6) develop and conduct internal health medical programs for FAA employes. There is no age restriction for the post which has yet to be filled; applicants must have certification by American Board of Preventive Medicine in aviation medicine, or a related specialty with suitable experience in aeromedicine.

PRESSURE FOR AIDING AGED IN HEALTH SEEN BY HEW ASSISTANT SECRETARY

HEW Assistant Secretary Elliot Richardson sees increased pressure on the government for action on health care of the aged. Addressing the American Public Health Association, the No. 3 man in HEW warned: "Unless private, voluntary or local solutions to these and similar problems are found, the pressure for action at higher levels of government will continue to mount." Too few communities, he claimed, have adequate facilities for long-term care of the chronically ill and dependent elderly persons, and very few places pay full costs for the hospital care of the indigent, many of whom are aged.

"For these and other reasons, the cost of health care for the aged has become a political problem of great moment," Mr. Richardson declared. "It will not go away. The real issues center around the degree of public action thereby demanded . . . Some would say that far more federal action is needed; others insist that Uncle Sam is already in too deep."

Mr. Richardson's conclusion: " . . . despite recent progress by private and voluntary institutions in helping the aged to meet the costs of health care, the remaining gaps are serious and difficult to close. The activities of local jurisdiction, moreover, in working out solutions to the health problems of the aged are spotty, sporadic, and for the most part, inadequate."

CAB PROPOSES TO PERMIT EMERGENCY MEDICAL STOPS ON AIRLINES

A change in commercial flight regulations to permit airlines to make unscheduled stops in

order to provide transportation for persons in need of emergency medical treatment is being proposed by the Civil Aeronautics Board. Present rules prohibit certain carriers from engaging in local air transportation between certain points on their routes, which is known as the "closed door" policy. CAB recently heard of a case where a line operating under the policy was prevented from supplying air transportation to a person in need of emergency medical treatment.

CAB, in its notice of proposed rule making in the Federal Register, comments: "Under such circumstances, a closed door restriction operates contrary to the public interest, and if requested, would undoubtedly warrant the board's granting relief from such restrictions in each individual case . . . Accordingly, the board deems it appropriate to exempt by regulation those air carriers operating under a certificate containing a "closed door" restriction from the provisions of such restriction to the extent necessary to permit them to provide local air transportation to persons in need of emergency medical treatment." A physician would have to certify the need.

VA OUTLINES MEDICAL RESEARCH PLANS, EMPHASIS ON AGED

The veterans' administration, with $15 million voted by congress this year, plans major new emphasis on studies of mental and physical deterioration associated with aging. VA also has mapped programs in mental illness, cancer, heart and blood vessel disorders and tuberculosis. In addition, some 50 VA hospitals equipped for use of radioisotopes will have programs to develop new techniques of atomic medicine for diagnosis and treatment.

Some examples of investigations involving the aged: Social and psychological aspects, at VA centers at Bath, N.Y., and Kecoughtan, Va.; changes in the elastic or connective tissue of the body with aging, and of the biochemistry of aging, at the VA center at Martinsburg, W.Va., and the Pittsburgh, Pa., general medical and surgical hospital; hearing loss, at the West Side Hospital in Chicago; gastrointestinal function, Manhattan Hospital in New York City; brain function in relation to hormones and use of drugs including tranquilizers, Martinsburg center; role of diet in aging and of hormones in relation to

BOOK REVIEWS

PRINCIPLES OF GENERAL SURGICAL MANAGEMENT
by **H. A. F. Dudley, FRCSE.** 203 pages. Illustrated. (1958) Williams & Wilkins. $6.50.

A group of surgeons at University of Edinburgh offer solid advice on surgical management in a manner that we think you will enjoy. Opinions are often dogmatic, the work is selective, the price is modest and you can't lose by ordering a copy on approval.

Stacey's Medical Books, San Francisco, California.

CARE OF THE PREMATURE INFANT
by **Evelyn C. Lundeen** and **Ralph H. Kunstadter.** 367 pages. Illustrated. (1958) Lippincott. $8.

This unique book was written jointly by the supervisor of the premature nursery and a staff pediatrician of the Michael Reese Hospital. The operation of their nursery is given in detail, along with a good general medical discussion. Both doctors and nurses concerned with the hospital care of premature infants will find this helpful.

Stacey's Medical Books, San Francisco, Calif.

PRACTICAL PEDIATRICS
by **R. Cannon Eley, M.D.** and **Benjamin Kramer, M.D.** 309 pages. Illustrated. (1958) Blakiston. $7.

The reviewer feels strongly about this one: "This is one of the most inexpertly written books I've seen. It is full of inaccuracies, misspellings, important omissions, misleading discussions, and often quite arbitrary viewpoints. I quit at page 82. I put cards in some of the places to illustrate the imperfections, and will return the book to you. I don't recommend it for anyone."

RADIOISOTOPE LABORATORY TECHNIQUES
by **R. A. Faires** and **B. H. Parks.** 236 pages. Illustrated. (1958) Pitman. $5.75.

A useful book on the basic principles in the use of isotopes includes basic nuclear physics, the production of isotopes and radiologic protection. Methods of detection, measurements, and application are summarized, especially as they concern industrial uses of radioactive isotopes. There are many useful charts and graphs.

Stacey's Medical Books, San Francisco, Calif.

VIRAL ENCEPHALITIS
edited by **William S. Fields, M.D.** and **Russell L. Blattner, M.D.** 225 pages. Illustrated. (1958) Thomas. $7.

A symposium of the fifth annual meeting of the Houston Neurological Society, includes accounts of the microbiology and epidemiology (Blattner, Lennette), the clinical (Robbins, Finley), pathological (Haymaker, van Bogaert, et al.) and preventive aspects (Cox). Virtually an exhaustive monograph, this volume should solidify and enrich some of the swampy notions on a subject of particular interest in the West.

Stacey's Medical Books, San Francisco, Calif.

A PRIMER ON COMMON FUNCTIONAL DISORDERS
by **Jack W. Fleming, M.D.** 174 pages. Illustrated. (1958) Litle, Brown. $5.

This is a primer written by an internist for the medical student and general physician. It is replete with excellent and amusing cartoons. It is abbreviated and chocolate coated but the solid core takes it out of the confectionery class. Painless, psychic perusing.

Stacey's Medical Books, San Francisco, Calif.

heart attacks and strokes, Los Angeles VA center.

MEDICARE EXPLAINS 'RESIDING WITH SPONSOR' STATUS OF DEPENDENTS

The Office of Dependents' Medical Care, responding to inquiries, has explained the eligibility status of dependents who reside apart from their sponsors at the time medical care begins, but rejoin the sponsor after completion of treatment. "As a general rule, such care may be continued (from civilian sources) without a medicare permit," ODMC states.

Readmission to a hospital is authorized within 14 days following discharge without a permit. However, in a maternity case, the wife rejoining her spouse during treatment is not eligible for continued civilian care (without a permit) if she changes her physician for any reason other than death or illness of the doctor.

SCIENCE FOUNDATION ANNOUNCES PRE- AND POST-DOCTORAL FELLOWSHIPS

The National Science Foundation is now accepting applications for two NSF fellowship programs for advance study in the natural sciences. One is a pre-doctoral program for which college seniors and graduate students may apply, and the other is a post-doctoral program for scientists who already have received the doctoral degree. Subjects include physical, medical, and biological sciences, as well as in anthropology and psychology other than clinical.

NSF estimates 1,100 such fellowships will be awarded next March. Stipends range from $1,800 for first year fellows to $4,500 for post-doctoral fellows. The usual dependency allowance will be $500.

DR. McGUINNESS CITES NEED FOR MORE PHYSICIANS

Dr. Aims C. McGuinness, special assistant to the secretary of health, education, and welfare, says that well-trained professional people in ever larger numbers are going to be needed to conduct medical research and to "bring this knowledge in the form of better medical care to our rapidly expanding population." Speaking at the American College of Preventive Medicine, Dr. McGuinness added that unless there is a marked increase in the production of physicians and other health personnel "not only the total research effort but the health services of the nation will be severly hampered in the years ahead." He forecast an increased medical research effort and estimated spending this year would exceed $425 million.

OCDM OUTLINES NATIONAL PLAN FOR CIVIL DEFENSE AND MOBILIZATION

The Office of Civil and Defense Mobilization, in a 32-page report, has outlined the national plan for civil defense and defense mobilization under three major contingencies: International tension, limited war and general war, including massive nuclear attack. The plan has been promulgated in accordance with Reorganization Plan No. 1 of 1958, which merged the Federal Civil Defense Administration with the Office of Defense Mobilization into the new OCDM.

"All citizens and governments at all levels, by virtue of their inherent obligation to support the common defense, are jointly responsible for the civil defense and defense mobilization of the nation," the plan states. The federal government is responsible for direction and co-ordination of the total national effort; the states are responsible for direction and co-ordination of activities and its political subdivisions, and local governments for programs of their subdivision.

OCDM said that professional, labor, service, religious, civic and social organizations are responsible for making such contributions to the preparation for and assurance of national, state or community survival as may be possible. For disaster services, the agency said states and subdivisions, with help from Uncle Sam, will stockpile necessary medical supplies and equipment and recruit and train personnel in disaster services. States also will use resources of non-governmental organizations such as the American Medical Association, American Hospital Association, and American National Red Cross.

OCDM Director Leo A. Hoegh said the principles outlined in the national plan would be supported later by a series of 40 annexes, including one on a national medical and health plan. It is being drawn up by the department of health, education, and welfare which has been given broad responsibilities in the health field in time of national emergency.

MISCELLANY

Researchers and clinicians from many sections of the U. S. met here Oct. 27 to lay the groundwork for new research on the effects of tran-

quilizers on children, both normal children and those emotionally disturbed or mentally retarded. Meeting was sponsored by the Psychopharmacology Service Center, National Institute of Mental Health. . . . OCDM has made a grant of $80,000 to the National League for Nursing for the purpose of demonstrating the curriculum content needed for civil defense education in nursing programs. . . . Groups planning participation in the 1960 White House Conference on Children and Youth have available a 20-page pamphlet setting out objectives and procedures. The conference headquarters is at 330 Independence Avenue S.W., Washington 25, D. C. . . . The newly created post of scientific director of the Food and Drug Administration has been filled by Paul L. Day, Ph.D., biochemist at the University of Arkansas School of Medicine. . . . The navy certificate of merit has been presented to E. R. Squibb & Sons for an exhibit titled "A Century of Naval Medicine." The firm, in turn, has presented to the National Naval Medical Center at Bethesda, Md., a portrait of Dr. Edward Robinson Squibb, who served as an assistant surgeon of the navy from 1847 to 1857.

PHS has found a "general indication of a trend" toward increased use of tuberculin skin testing in place of mass chest X-ray campaigns . . . . Eight virologists are on a nine-week poliomyelitis study course in the United States and Canada. They are from Russia, Chile, Egypt, Nigeria, Poland, Lebanon, Austria and French Equatorial Africa . . . Appointments — Capt. Leo J. Elsasser as chief of the Navy Medical Service Corps, Francis Boyer (board chairman, Smith, Kline & French) to the National Advisory Arthritis and Metabolic Diseases Council . . . A recalculation of water pollution control allocations shows the U.S. will pay the maximum toward projects in five states and territories of the lowest per capita income, Alabama, Arkansas, South Carolina, Puerto Rico and the Virgin Islands, and the minimum one-third to the two highest income states, Connecticut and Delaware. Other states' shares vary within 33⅓ and 66⅔ per cent . . . Public health service reports that none of its completed or current tests of water and air for radiation shows a dangerous level. Federal Trade Commission has banned advertising claims that Chesterfield cigarets are "milder" or that they have no adverse affect on nose, throat or accessory organs.

PHYSICIANS MUST LEAD IN SOLVING SOCIAL, ECONOMIC PROBLEMS

SEVERAL hundred physicians became "patients" here today as eight experts diagnosed their social, economic and civic "health" in a unique meeting.

The experts' prescription:

Doctors can no longer rely solely on cultivating clinical skills. They must take the responsibility for improving their relationships and developing medical services that answer the changing needs of American society.

The experts' warning:

Their professional future dictates that doctors find the time now to educate themselves on their individual and social responsibilities, lest they abdicate medical leadership entirely tomorrow.

The experts' prediction:

American physicians have the wisdom and resources to meet the challenge of these new social and economic problems in medicine.

The occasion was a forum on "The Doctor and His Practice" co-sponsored by the Erie, N. Y. County Medical Society and The Wm. S. Merrell Company, Division of Vick Chemical Company, at the Statler Hilton Hotel.

Doctors attending the meeting were counselled on improving their dealings with patients, staff and community; their office and business management procedures; protecting themselves against professional liability suits; selecting their investments, insurance and planning their estates.

Here are the highlights of the experts' diagnosis:

Human Relationships

According to Woodrow Wirsig, editor of Printers' Ink, New York, a survey of editors discloses the feeling that "medicine today is dangerously impersonal." Many editors, Mr. Wirsig said, "receive a flood of 'help-me' letters" from people who are desperately in need of a "personal relationship with a doctor they can trust as a friend and counselor."

As a yardstick for professional action, Mr. Wirsig urged that doctors undertake a continuing study of the public's attitude toward medicine and "what people want from doctors."

Treatment of the patient "begins in the waiting room," John Sedgwick, Chicago medical office management consultant, told the physicians' meeting. "The patient expects consideration for his comfort as well as his ills. Nobody likes to be kept waiting too long, including the patient," Mr. Sedgwick pointed out. This consideration might even logically begin outside the office, with adequate provision of parking facilities for the patient, he added.

Lawsuits Against Doctors

"Medical malpractice litigation has come of age and is now big business," R. Crawford Morris, veteran Cleveland attorney, told the forum. In the light of subsequent findings, he asserted, "95 per cent of these cases are completely unjustified."

Urging physicians to "be as careful with your tongue as you are with your scapel," Mr. Morris offered these rules to help doctors prevent liability suits:

1. Never guarantee a cure unless you mean to be held to it.
2. Watch the time factor. In most states, the patient has one year within which to sue you for malpractice, whereas you have six years within which to sue her for your bill. (In Arizona, the patient has two years, the doctor has three years).
3. Keep up with the advance of medicine.
4. But do not experiment unless you have the patient's permission in writing.
5. Get the patient's consent for everything you do, preferably in writing.
6. Good housekeeping. Keep good records, full and adequate.
7. Do not be negligent. If you feel the case is beyond your experience, do not hesitate to call for a consultation and make a written record of the consultant's opinion.

Investments by Physicians

"Change, ruthless and sudden" is the dominant note in the investment markets today, John G. Forrest, business and financial news editor, the New York Times, told the audience. Securities can no longer be bought for long-term holding and forgotten, Mr. Forrest said.

"Physicians must set aside a day from time to time throughout the year to review their portfolios with their financial advisors," he emphasized. "There is no other way to protect and maintain the growth value of an investment."

The physician's "own personality" must be the key to his investment approach, Carl Holzheimer, Chicago investment consultant to the American Medical Association, advised the meeting. Pro-

fessional investment counsel, "like good medicine," is expensive, but highly desirable, for doctors, Mr. Holzheimer said.

An awareness of "inflationary risks" in today's market, coupled with sound diversification of holdings, is paramount for the investing doctor, according to Mr. Holzheimer, a partner in Security Supervisors, Inc.

Other speakers at the all-day forum were:

Samuel Polsky, associate professor, Temple University Law School, and director, Philadelphia Medico-Legal Institute.

Dr. A. D. Kelly, general secretary, Canadian Medical Association, Toronto.

Amiel Caplan, estate planning consultant, Solomon Huber Associates, New York.

The meeting was an outgrowth of the pioneering medico-legal film series produced by the AMA's law department in co-operation with The Wm. S. Merrell Company. Many medical audiences have already seen the first three films in the series, "The Medical Witness," "The Doctor Defendant," and "The Man Who Didn't Walk."

BLUE SHIELD — WHAT HAVE WE PROVED?

THE EARLIEST statewide pre-payment plans for medical care were started just 20 years ago, and this seems like an appropriate time for us physicians to tote up our achievements in creating and sponsoring the mechanism we call Blue Shield.

What, essentially, have we accomplished through Blue Shield?

Most obvious is the fact that through our Blue Shield Plans, we are helping one out of every four people in the U.S.A. to prepay for basic medical service.

Through these plans, we physicians have set the pace and pattern for the evolution of the entire voluntary medical care insurance program in the U.S.A.

Through Blue Shield, we have proved that medical care can be pre-paid by voluntary co-operation of doctor and patient on a nation-wide scale — with free choice of physician for the patient, fee-for-service for the doctor, and a private confidential relationship between them — and that the American people like it that way.

Through Blue Shield, we have shown that patients and doctors don't need any outside agency to bring them together, and that no one but the patient himself needs to profit from prepaying his medical care costs.

Through Blue Shield, it is fair to say that we doctors have given our fellow countrymen perhaps the most convincing demonstration of the past 20 years that, working together voluntarily, we can solve even our most urgent and complex social problems within the framework of our private enterprise system in the U.S.A.

BLUE CROSS — BLUE SHIELD

PICTURED are two happy fellows, L. Donald Lau, executive director for Arizona Blue Cross-Blue Shield, and Robert R. Rinehart, director of public relations.

Mr. Lau is in the process of putting the trophy he is holding in line with the other five on the display table. These six trophies represent the best overall public relations program of any Blue Cross-Blue Shield plan in the country with less than 200,000 members each of the last six years.

In addition the plan has won seven other

Left to right: L. Donald Lau, Executive Director, Arizona Blue Cross-Blue Shield and Robert R. Rinehart, Director of Public Relations.

awards for specific public relations projects since 1951. The awards are an annual presention at the national public relations and enrollment conference of Blue Cross-Blue Shield plans throughout the United States and Canada. They are made by the Blue Cross Commission of the American Hospital Association and the Blue Shield Medical Care Plans, Chicago.

The Arizona entry delt with advertising, newspaper publicity, employe relations, hospital and medical relations, member relations and public service. It was nearly 200 pages of material, covering the past year of activities.

This marked the 16th award for Mr. Rinehart. He formerly served with the Columbus, Ohio and New Mexico plans, and has been affiliated with the Arizona plan since 1952.

NATIONAL CANCER RESEARCH FOUNDATION

GEORGE S. Zuccala, Sc.D., of the National Cancer Research Foundation, with which he is associated, has requested state and territorial health departments to conduct cancer tests according to the "Zuccala Lytic" method. It is the understanding that he has stated that he is attempting to cover every state in the United States and a few nations abroad to find out what causes the phenomena which he has observed in body sera.

In the event any requests for information concerning Mr. Zuccala or his method are received by you, it is suggested that they be forwarded to Dr. Clarence Salisbury.

HOSPITAL BENEFIT ASSURANCE
HOME OFFICE: FIRST STREET AT WILLETTA · PHOENIX, ARIZONA · ALpine 8-4888

MEDICAL DIRECTOR
DUKE R. GASKINS, M.D.

Re: Fees

Dear Doctor:

I would like to point out that we here at HBA make no attempt to set the fee which a doctor should charge for any given procedure or service. We at HBA do not wish to disturb the physician-patient relationship.

HBA does have two sets of surgical fees which may be payable according to the coverage purchased by the insured. The first plan is our original Standard Surgical Plan and the second plan, our Preferred Surgical Plan, pays 50 per cent greater than the first plan. We have encouraged all our old policyholders to change over to the new plan. Many have failed to do so. All people now enrolling for HBA are being given the Preferred Surgical Plan.

The fee paid by HBA is merely the amount that we have agreed to reimburse the patient for having a certain operation performed. The Surgical Form given to the patient for you to fill out states, "Amounts in excess of that payable according to our schedule of surgical benefits should be billed to the patient."

Very truly yours,

THE H.B.A. LIFE INSURANCE COMPANY

Duke R. Gaskins, M.D.

Duke R. Gaskins, M.D.
Medical Director

DRG:rr

P.S. Incidentally, the Preferred Surgical Plan also provides payment of $5.00 a day for in-hospital doctor calls when surgery is not needed.

UNIVERSITY OF ARIZONA

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CENTRAL REPOSITORY FOR MEDICAL CREDENTIALS

THE World Medical Association has initiated a program which the American Medical Association commends to your attention.

On July 1, 1958, the services of a central repository for medical credentials became available to doctors of the world. During war and national uprisings, medical records are often lost or destroyed. Because of this, many doctors are today unable to utilize their professional skills because of the loss of destruction of their original credentials and a lack of a protective service in which authenticated copies could be deposited. Therefore, the World Medical Association has undertaken a program to assure that the doctor will always be able to prove himself medically trained and fully accredited to practice medicine.

In the United States, the lifetime cost of the service on a one-payment basis to the newly graduated doctor is approximately $60. An actuarial schedule has been established for doctors in the various age groups. A 10-year service rate is also available.

Repository officials suggest that the credentials deposited include official medical school record, medical diploma, and specialist credentials, American doctors should *not* send their original credentials, but should send photostatic, microfilm, or notarized copies of their original credentials.

Requests for forms and additional information in regard to the Central Repository for Medical Credentials is available from the World Medical Association, 10 Columbus Circle, New York 19, N. Y.

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Reasons for Failure:

1. Treatment discontinued too soon (percentage of patients improved increases substantially after first six months).
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HILL-BURTON GRANTS

THE department of health, education, and welfare reports that as of Sept. 30, the status of all Hill-Burton grants for the state of Arizona is: None.

Approved, but not yet under construction, 24 projects at a total cost of $16,343,471, including $5,287,467 federal contribution and designed to supply 989 additional beds.

Under construction, 10 projects at a total cost of $4,045,063 including federal contribution of $1,562,089 and designed to supply 187 beds.

Caompleted and in operation, three projects at a total cost of $3,438,815, including federal contribution of $875,000 and supplying 170 additional beds.

AMERICAN CANCER SOCIETY

THYROID AND BREAST CA

DR. BARBARA B. JACOBS of the University of Colorado School of Medicine has found that mice with breast cancer have depressed thyroid gland activity.

This decreased thyroid activity resembles that which occurs after breeding and in the ageing process in the animals. There is no way of telling whether thyroid depression is the cause or effect in all three processes. The susceptible mice usually develop breast cancer only after they have had several litters and have reached their prime of life.

Dr. Jacobs found that thyroid hormone production fell off in breeding animals and in ageing animals. The biggest drop of all, however, was in mice with cancer. Mice of the cancer-resistant strain, including old and breeding animals, had much more active thyroids than those of the cancer-susceptible strain.

The results of this study are of value because relatively little is known about the role of the thyroid gland in cancer. The bulk of hormone studies have been on other glands.

Two other research groups have reported that the thyroids of rats become less active with age, and a third group found a similar phenomenon in ageing white mice. Another group has said that thyroid activity slows down in rabbits when cancer-inducing and wart-inducing tars are applied to the skin and in mice with spontaneous or transplanted cancers.

Whether these findings apply to humans is speculative. Breast cancer is commonest in mice which have been mated; in humans the reverse is true — it is more common in spinsters than in women who have borne and nursed children.

REGENERATION OF AN EXTREMITY?

A Cornell University scientist has advanced the possibility that man some day may be able to regrow a lost arm or leg. This suggestion, discussed in detail by Dr. Marcus Singer of Cornell University in the October issue of Scientific American, is based on studies in which he caused a young adult frog to regenerate a new leg, although ordinarily it cannot.

Salamanders, fish, and other lower vertebrates regenerate a body part after it is amputated. These growths in their early stages closely resemble cancerous growths, but unlike cancers, they eventually stop enlarging and are converted into a useful body part.

Regeneration of tissues, like skin, muscle and bone, occurs readily in higher forms; but only some internal organs, such as the liver, can regenerate.

In cases where regeneration of limbs does occur, the nerve controls the growth in large part. If the stump is paralyzed in a salamander, the leg or arm does not regenerate.

Dr. Singer, after years of studying this nervous influence on regeneration has found that one reason why the frog cannot regrow an arm, although the tadpole can, is that there are not enough nerves in the arm.

The scientist decided to re-route some nerves from the leg of a young frog to the stump of the arm. Following this surgery, the frog regrew its arm.

These results and others showed that the nerves produce a substance important for growth. The basic observations on the nature of the growth by Dr. Singer and other scientists have uncovered factors in the growth of tissues and organs which may supply hints as to how cancer breaks away from the control of the body to grow wildly.

CANCER IMMUNIZATION WITH IRRADIATED CA CELLS

SCIENTISTS at the University of California at Los Angeles have immunized mice against cancer with x-rayed cancer cells.

This was disclosed by Drs. Ralph W. McKee, Eugene Garcia, M. Richard Troeh and William Schultz of the Department of Physiological Chemistry in the UCLA School of Medicine.

They found that the x-rays used did not kill the cancer cells, but rather altered them so that they became a potent vaccine which stimulated the mice's natural resistance to them.

More than 90 per cent of the mice given a series of five or more "shots" of x-rayed cells were immunized against later transplants of unirradiated cancer. Something, presumably antibodies, in these vaccinated mice completely destroyed enormous and vigorously growing cancers later injected.

The McKee group employed in these experiments a type of cancer in which the cells grow singly and suspended in a fluid which fills the belly cavity. The cancer is almost but not quite 100 per cent fatal, and death takes place in untreated animals about 14 days after inoculation.

The fact that a mouse occasionally escaped death because its natural immunity was strong enough to overcome the cancer induced the scientists to explore the possibility of strengthening the animals' resistance to the disease. They made a variety of vaccines — with cancer cells which had been frozen and thawed, dried out, ground up finely, shattered by super-sonic waves and injured or killed by other means. None of these vaccines worked.

Then they tried vaccines made from x-rayed cancer cells.

The scientists found that x-ray doses totaling 2,000 to 4,000 roentgen units wrought conspicuous changes in the cancer cells and rendered them temporarily incapable of causing cancer. The cancer cells were "stunned" and helpless for a few days following irradiation, and during these few days the mice began to produce antibodies against the damaged cells. By the time the irradiated cancer cells recovered and began to grow again, it was too late — antibodies already were beginning to overwhelm them and their destruction was inevitable.

It took almost a week for the mouse to fully mobilize enough antibodies for a successful attack against an injection of irradiated cancer cells. If the irradiated cells were withdrawn anywhere from two to six days after being injected into one mouse and then injected into an unvaccinated mouse, they grew rapidly and killed their new unprotected host in from 18 to 23 days.

The vaccine has been effective on only this kind of mouse cancer. It does not apply to other mouse cancers or to other species.

It is not known whether this kind of vaccine would prevent a spontaneous cancer from arising in mice — it has been used against only one kind of transplanted mouse cancer. The results do not imply that a vaccine is possible for cancer in humans, who are subject to several hundred kinds of malignancies.

Nevertheless, the studies make an important contribution to a growing understanding of immunity and its role in cancer. They afford additional proof that cancer is a problem of host resistance as well as cell alterations, that x-rays may prove useful in the preparation of vaccines and that multiple shots may be necessary to immunize against animal transplanted cancers.

The experiments showed that in "stunning" the cancer cells, x-rays changed the manner in which cells use oxygen and sugars.

MUTATION OF GENES BY HEAT

COLUMBIA University scientists, Dr. Stephen Zamenhof and Dr. Sheldon Greer of the Department of Biochemistry at the university's College of Physicians and Surgeons, have mutated cells with temperatures of 140 degrees (Fahrenheit); and they have traced the mutation-wrought chemical changes in the genes.

Many scientists believe that the cancer cell is a body cell which has mutated. These findings raise – but do not answer – the question of whether environmental temperature, alone or in combination with light, radiation and certain chemicals, is an important cancer-inducing factor.

The Columbia group used common intestinal bacteria in these experiments. They pre-treated the bacteria in several ways – including giving them a high-sugar environment or spinning and dehydrating the cultures. Then they placed them in a corked test tube and kept them in a 140-degree bath for two or three hours.

The number of bacteria which survived the high temperatures varied from one in a few hundred to one in many thousand. Most survivors had become mutants – they now required in food some of the sugars and other dietary requirements they once could make for themselves, they were small and so were the colonies they formed, in many ways they looked different from brother bacteria which had not undergone the heat treatment. Their offspring inherited the same characteristics.

A peculiar property of the heat-induced mutants was that they could not easily take high temperatures. When they were subjected a second time to high temperatures they died quickly. The non-mutants survived better. This and other observations indicated that the survivors were the product of mutation, not of selection due to natural heat resistance.

Some of the mutants were unstable. They reverted back toward normal or mutated further into more bizarre forms. In this regard, they resembled mutant bacteria which Dr. Zamenhof had produced earlier by feeding them an artificial chemical, 5-bromouracil, which substituted for thymine, one of the chemicals which make up genes. The 5-bromouracil mutants were grotestque monsters.

It is difficult to say at this time what application, if any, these studies may have to cancer in humans. They could indicate – but not prove – that temperature, along with light, may be one explanation for the fact that there is five times as much skin cancer in the warm and sunny Southwest as in the Great Lakes area.

The production of unstable mutants, which are subject to die easily even by the force which mutated them, might explain why cancer cells are vulnerable to anti-cancer drugs, which in many cases are also cancer-producing and mutation-producing agents.

HIGHLIGHTS FROM THE SIXTH ANNUAL ANTIBIOTIC SYMPOSIUM*

NEW antibiotics for resistant staphylococcus infections and the latest advances in antitumor agents highlighted the sixth symposium on antibiotics.

During the three-day symposium, 181 scientific papers were presented by investigators from all parts of the United States and 14 foreign countries. The symposium coincided with the 30th anniversary celebration of the discovery of penicillin.

Chairman Henry Welch, Ph.D., called on world leaders in antibiotic research and development to sum up the accomplishments of the past and to outline the work yet to be done. Among the speakers were Sir Howard W. Florey, who first applied Fleming's discovery to clinical medicine and who introduced penicillin into the United States; Dr. Selman A. Waksman, in whose laboratory streptomycin was discovered; Dr. Chester S. Keefer, who organized and administered the first clinical programs on both penicillin and streptomycin; and Dr. Harry F. Dowling, a recognized leader in the antibiotics field.

These authorities concluded that, despite dramatic lifesaving accomplishments with antibiotics, much remains to be done – in extending their prophylactic and therapeutic roles, in studying factors affecting bacterial growth and metabolism, in understanding the causes of bacterial resistance, and in determining the basic mode of action of drugs against pathogenic organ-

*Chairman, Henry Welch, Ph.D. Sponsored by the journals Antibiotics & Chemotherapy and Antibiotic Medicine & Clinical Therapy.

isms. These problems must be overcome for the bright promise of antibiotics to be fulfilled.

Successful Therapy

Successful therapy with vancomycin in seven of 10 patients critically ill with staphylococcus infections was reported by Ehrenkranz of the University of Miami. In nine patients, the infection appeared to be life-threatening. Use of vancomycin followed treatment failures with two or more antibiotics administered for a minimum of five days. After an initial dose of 1 to 2 Gm. of vancomycin, 500 mg. were administered at six to eight-hour intervals for a seven to 16-day period. No development of vancomycin-resistant staphylococci was observed. Side-effects included a maculopapular rash in two patients, erythema and fever in one, and thrombophlebitis in one. Ehrenkranz postulated that the clinical efficacy of vancomycin may be due either to an increased penetration of the antibiotic into the infected site or to an accumulation of the drug which results in high body concentrations and/or pronounced bactericidal effect.

Furmethonol emerged as the most promising compound in a study designed to determine the effects of nitrofurans on antibiotic-resistant staphylococci. Kefauver and his associates found this drug to be effective against certain bacterial species, including staphylococci, vibrios, diplococci, and coliform bacteria. Furmethonol was reported to be immediately bacteriostatic to staphylococci and bactericidal within two to four hours, depending upon the drug concentration employed.

The neurotoxicity which sometimes occurs with large doses of cycloserine can now be controlled by pyridoxine. According to Epstein and his associates, the lifesaving properties of cycloserine in drug-resistant tuberculosis led to a search for ways to lessen its neurotoxic effects. Under study were 27 advanced, drug-resistant, cavitary cases of pulmonary tuberculosis. All were given 2 Gm. of cycloserine and 300 mg. of pyridoxine hydrochloride per day. Untoward reactions in 13 patients included slight and temporary mental confusion, dizziness, tremors, and hyper-reflexia, but in no case was it necessary to discontinue therapy permanently. There were no convulsions. The investigators concluded that the salutary effects of pyridoxine are pharmacologic rather than vitaminic in nature. They felt that this new regimen allows the successful treatment of tuberculosis due to drug-resistant bacilli and permits the rehabilitation of a large percentage of the patients who are otherwise doomed to invalidism and early death.

Remarkable speed, certainty, and intensity of antibacterial effectiveness have been revealed with a new propionate derivative of erythromycin. The clinical significance of this research achievement, which began six years ago, was disclosed by Griffith in confirming clinically the laboratory investigations reported earlier by Stephens and Conine and the phramacologic promise shown in studies presented by Lee et al.

Peak levels with the new derivative were reported to be three to four times higher than levels with erythromycin. In more than 1,000 determinations in 250 subjects, every patient showed antibacterial activity in the blood. No significant cumulative effect was observed with repeated 250-mg. doses. Therapeutic results in clinical trials in 40 patients indicated that the propionate was highly effective. Even though oral doses of 2 Gm. daily have been given for one month, no signs of toxicity or severe side-effects have been observed.

The explanation of these antibacterial superiorities appears to be that, for the most part, biliary excretion of the propionate is only about one-tenth that observed with erythromycin despite the higher blood concentrations. This has been shown in both animals and humans.

Perry and co-workers, of the University of Washington, provided further clinical proof. In 13 triple crossover studies, earlier, higher, and more prolonged serum levels were observed, with peak concentrations three times as high as those with erythromycin. The investigators emphasized that the propionate was "more uniformly absorbed" and produced "a more predictable response" than was previously attainable. Another series of 20 patients, most of them with pneumonia, were treated with the propionate, and results showed that it was effective and well tolerated. Responses were "consistent and predictable," and gastro-intestinal irritation was not observed.

Kunin described studies done by Finland's group at the Thorndike Memorial Laboratories in Boston. They confirmed that the propionate was much more rapidly absorbed and that it provided higher antibacterial levels than either erythromycin or triacetyloleandomycin.

Griffith also pointed out that triacetyloleandomycin preparations provide definitely less anti-

bacterial effect in the serum than either erythromycin or the new propionate derivative. The propionate produced four to 16 times as much antimicrobial activity in the serum as triacetyloleandomycin.

Dr. Kirby then commented that graphs have recently appeared which show higher levels with triacetyloleandomycin and that these represent an "apparent discrepancy" in data. He illustrated his point with two graphs. One showed that triacetyloleandomycin gave higher blood levels in micrograms than did erythromycin and levels that were almost as high as the propionate. However, the second graph showed the relative antibacterial activity of these agents in the blood. In this case, the antimicrobial effectiveness of triacetyloleandomycin was clearly shown to be only one-tenth that of erythromycin, despite the apparently contradictory blood levels.

Subsequently, Dr. Maxwell Finland and Dr. Monroe J. Romansky added comments on this point, again stressing that the blood levels that many physicians usually depend upon may be misleading when they show only the micrograms of drug in the blood. They urged that the level of antibacterial activity (as determined by testing the serum against pathogens) be compared instead, since this is the essential consideration in treatment of infection.

The drug of choice in severe antibiotic-resistant staphylococcus infections is new vancomycin, according to a study by Kirby and his associates at the University of Washington. They reported that ristocetin and kanamycin are definitely less active than vancomycin in vitro, according to comparative studies. In 30 patients with severe staphylococcus and streptococcus infections, results were generally considered to be excellent and often dramatic in instances in which othr antibiotics had failed. Dosage was 2 Gm. daily for 10 days and 1 Gm. daily thereafter. No vancomycin-resistant staphylococci have been encountered by the investigators, and relatively few side-effects were observed.

According to Pilheu and his associates, of Buenos Aires, Argentina, a therapeutic combination of corticosteroids and antituberculosis drugs was of benefit in treating tuberculosis. The speaker held that a new cortical hormone, triamcinolone, is most effective. However, when the hormone is used, it is necessary that the organisms be sensitive to the antituberculosis drug, that isoniazid be included in the treatment, and that blood glucose be at a normal level.

Mitomycin C might be promising as an antitumor antibiotic. This conclusion was reached by Shiraha and his associates, of Osaka, Japan, following a study of 82 patients with advanced malignancies. A new active principle was isolated from broth cultures of *Streptomyces caespitosus*. These investigators noted regression of tumor and general improvement. There was increase in activity and weight, reduction of ascites, increase of urinary output, and relief of pain, nausea, and vomiting. Leukopenia was the most frequent side effect.

A new antibiotic, actinobolin, shown to have antitumor activity, has been tested against two transplantable human tumors grown in rats. Teller and his co-workers, Sloan-Kettering Institute for Cancer Research, observed moderate to good growth inhibition of both tumors when the compound was administered intraperitoneally 24 hours after transplantation. There was little or no effect on established tumors when the initial dose was given four days following transplantation, or when the drug was administered orally.

This was the major question facing seven leading authorities during a panel discussion on the current status of available antibiotics for use in staphylococcus diseases. They agreed that vancomycin is the most effective in severe staphylococcus infections.

The panel was comprised of Drs. Maxwell Finland (moderator), E. L. Foltz, J. E. Geraci, W. M. M. Kirby, E. L. Quinn, M. J. Romansky, and E M. Yow. The reason for the effectiveness of vancomycin was summed up by Kirby in this way: It is effective in lower concentrations than other antibiotics; it is more bactericidal, provides high effective blood levels, has minimal side-effects, does not exhibit cross-resistance, and is successful and impressive in its results.

Discussing triacetyloleandomycin, Quinn showed that, although it yields higher blood levels than erythromycin, antibacterial activity in the serum is considerably lower than that seen with erythromycin.

Romansky reported good clinical results with ristocetin, especially in difficult septicemia cases. He stated that with doses of 25 to 50 mg. per Kg., side-effects do not usually occur.

According to Yow, kanamycin is rapidly absorbed after intramuscular administration but poorly absorbed when given orally. He con-

cluded that its use is beneficial in staphylococcus infections as well as in those caused by proteus and other gram-negative bacilli. Toxicity includes renal complications, auditory loss, and eosinophilia.

Concerning the problem of single or combined therapy, the panel agreed that the new bactericidal antibiotics (such as vancomycin and ristocetin) used alone may be preferable to combined therapy. They also agreed that fixed combinations are not practical. It was generally felt that routine use of antibiotic prophylavis in surgical procedures is not advisable. Kirby held that the advent of the new bactericidal antibiotics might warrant a re-evaluation. Foltz saw an indication for prophylactic use in selected cases only. It was emphasized that antibiotic prophylaxis does not serve as a substitute for aseptic technique. The panel unanimously concurred that sulfonamides have no place in the treatment of resistant staphylococcus infections.

Some of the best-known edible puffballs may contain important tumor inhibitors, according to a preliminary report by Reilly and her co-workers. Principles which retard the growth of mouse sarcoma have been found in several species of sporophores. The nature of the active principles is not yet known.

A nonantibiotic agent, phenacridane chloride, active against antibiotic-resistant staphylococci, was described by Grutter, who stated that many minor infections of the skin involve staphylococci. Therefore, a number of antibiotic-resistant staphylococci were gathered from several sources and checked to determine their sensitivity to commonly used antibiotics as well as to phenacridane chloride. Although many of the stains tested were resistant to more than one antibiotic, all strains tested were sensitive to phenacridane chloride. It was concluded that this new agent should prove to be useful in topical therapy.

Welch and associates discussed in-vitro studies of leucomycin, a new antibiotic discovered in Japan. Using the serial dilution tube method, they tested the susceptibility of 200 *Staphylococcus aureus* cultures and 47 other cultures to the action of leucomycin. Leucomycin was active against streptococci and most strains of *Staph. aureus* tested, many of which were resistant to penicillin and other antibiotics.

Subsequently, Steinberg et al., reported that they had independently isolated an antibiotic, which they labeled C-637, that had been found identical to leucomycin. The authors concluded that the drug is worthy of further study.

Marked local antibacterial activity has been noted with a new bis-quaternary compound derived from beta ionone. Edelson and his coworkers studied 161 patients with pyoderma treated with a topical ointment containing .01 per cent of this compound in a carbowax base. Sixty-one per cent were classified as cured, 21 per cent were markedly improved, and 10 per cent showed moderate improvment, whereas 8 per cent were considered failures. Bacteriologic studies of skin lesions before and after treatment in 30 patients revealed an 84 per cent "bacteriologic cure." The investigators concluded that the new compound is an "effective and safe topical preparation for the treatment of local bacterial infections."

High plasma concentrations with a new, long-acting sulfonamide were reported by Boger. The drug, referred to as sulfadimethoxine, is rapidly absorbed following oral administration. Levels above 10 mcg. per 100 ml. were maintained for at least 24 hours following single oral doses. According to the investigator, the drug promises great flexibility in oral dosage for the therapeutic and prophylactic uses for which sulfonamides have been found effective.

BOOK REVIEWS

OPHTHALMIC PLASTIC SURGERY
by **Sidney A. Fox**, M.D. 2nd ed. 324 pages. Illustrated. (1958) Grune & Stratton. $15.

In this extensively revised and enlarged edition, Dr. Fox brings his earlier volume completely up to date, presenting the latest methods and techniques known to this important branch of the specialty – all based on his own experience and using only those procedures that have proved satisfactory in his hands.

Stacey's Medical Books, San Francisco, Calif.

PORTAL HYPERTENSION
by **Alan Henderson Hunt**, FRCS. 230 pages. Illustrated. (1958) Williams & Wilkins. $8.50.

From personal experiences with 250 unselected consecutive patients the author analyzes new findings and assesses new methods of treatment. Many illustrations include charts, venograms, and photographs. The author is Surgeon, St. Bartholomew's and the Royal Marsden Hospitals, and late Hunterian Professor, Royal College of Surgeons, London.

Stacey's Medical Books, San Francisco, Calif.

ARIZONA ACADEMY OF GENERAL PRACTICE

OFFICERS for 1958-59: President: Frank A. Shallenberger Jr., Tucson, President-elect; Samuel Hale, Phoenix. Vice president: A. V. Dudley, Jr., Tucson, Secretary; Noel Smith, Phoenix, Treasurer: V. Eugene Frazier, Mesa.

Board of Directors: E. B. Jolley, Bisbee, term expires, 1959; A. H. Tallakson, Phoenix, term expires, 1960; and James E. Brady, Tucson, term expires, 1961.

AMERICAN SOCIETY OF INTERNAL MEDICINE

DR. Elbert L. Persons of Durham, N. C., president of the American Society of Internal Medicine, announced the appointment of Robert L. Richards, of Harrisburg, Pa., as the first full-time national executive secretary for the society to be effective Jan. 1, 1959.

"Since the society was officially organized in Boston in 1957, this is the first major administrative move this society of 5,000 members has taken to assure itself that the specialty of internal medicine will be recognized for its contribution to the solution of medical care problems of the nation," stated Dr. Persons, who attended a meeting of the board of trustees of the society in New Orleans prior to the meeting of the Southern Medical Association.

A VERSE

If we could pass sigmoidoscopes
On tigers, wolves and antelopes;
On cockatoos and hooded crows;
On porcupines and buffaloes
And other creatures – great and small –
We might discover that they all,
In spite of contradictory rumors,
Were prone to intestinal tumors!
So much unlike outside yet much the same within!
Once more – "One touch of nature makes the whole world kin!"

LOCATION INQUIRIES

DRAUGHON, CLYDE WILLIAM, M.D., McGuire Hospital, Box 27, Richmond 19, Va.; *GS* 1954 graduate of University of Oklahoma School of Medicine; interned at Mercy Hospital, Oklahoma City, Okla.; served residency at VA Hospital in Oklahoma City; holds a license in the state of Oklahoma. Fulfilled his military obligations; age 35; married; interested in general surgery or group practice. Available July 1, 1959.

HANCOCK, JOHN J., M.D., 211 North Riverside Drive, Iowa City, Lowa; *R;* 1954 graduate of State University of Iowa; interned at Tripler Army Hospital, Hononlu, TH; served residency at University of Iowa, University Hospitals Iowa City; fulfilled his military obligations; holds license in state of Iowa. Thirty-one years of age; married; interested in associate practice. Available Jan. 1, 1959.

KLINE, OWEN FOSTER JR., M.D., 4712 Warrington Drive, Flint, Mich.: *S;* 1954 graduate of University of Colorado; interned at Hurley Hospital in Flint, Mich.; served residency at Hurley Hospital; holds license in the states of Colorado and Michigan, fulfilled his military obligations. Interested in private or group practice. Available July 1, 1959.

RIDGWAY, DON NEAL, M.D., 713 Emerson Street, Saginaw, Mich,: *GP;* 1954 graduate of Ohio State University; interned at Butterworth Hospital in Grand Rapids, Mich.; served residency at St. Mary's Hospital in Saginaw, Mich.; holds license in state of Ohio; Basic Science certificate in Michigan; fulfilled military obligations; 29 years of age; married. Interested in associate or group practice. Available after July 15, 1959.

RUSSELL, JAMES L., M.D., 820 Park Street, N.W., Miami, Okla.; *GS* or *TS;* 1949 graduate of St. Louis University School of Medicine; interned at Charity Hospital of Louisiana in New Orleans; served residency at Charity Hospital of Louisiana; holds licenses in Missouri and Louisiana; fulfilled his military obligations; 31 years of age; married. Interested in general surgery or thoracic surgery. Available January 1959.

LOCATION OPPORTUNITIES

ASHFORK – Pop. 700 – North centrally located – Railroad center – Contact the Women's Club, Ashfork, Ariz.

BENSON – Excellent opportunity for GP. This St. David-Benson trade area has about 5,000 population with only one doctor available. A small sleep-in hospital can be set up very easily. Hospital 25 miles away. Chamber of

commerce will furnish telephone answering service, nine to five. Contact the chamber of commerce, Benson, Ariz., or James M. Hesser, M.D., Sixth and Huachuca streets, Benson, Ariz.

CAMP VERDE – Located in the heart of a large farming and ranching area on the Verde River. Approximately 100 miles north of Phoenix. Badly in need of a medical doctor. Contact Ivy N. Moser R.N., Camp Verde, Ariz.

GILA BEND – Pop, 2,500 – 80 miles west of Phoenix – nearest town to the Painted Rock Dam Project. Good opportunity for general practitioner. Cattle, cotton, and general farming. Office and equipment available. $150 monthly income from board of supervisors. Contact Mrs. J. F. Allison, Box 485, Gila Bend, Ariz.

HAYDEN – Pop. 3,000/4,000. Industrial practice – approximately 200 employes and dependents. Only part-time required. Coverage: Metropolitan Surgical Plan. Physician may engage in private practice also. Small company-owned clinical building (new) available for use, with X-ray equipment, diathermy equipment, etc. Full-time nurse available to assist; clerical work to be handled by company. Company housing facilities available for physician – small rental. Contact: American Smelting & Refining Company, Mr. Ben Roberts, Department Manager, P. O. Box 1111, El Paso, Texas.

HOLBROOK – Population above 7,000. Located in the heart of the northeastern pine country of Arizona on U. S. Rt. 66. Need services of GP. For full details, contact Donald F. DeMarse, M.D., Box 397, Holbrook, Ariz.

MIAMI – Opportunity for GP. Industrial hospital staffed by approximately seven doctors, who care for personnel and families of those who work for the three principal mining companies. Community served by many mining and ranching interests. Contact Robert V. Horan, M.D., Miami-Inspiration Hospital, Miami, Ariz.

MORENCI – Mining community near New Mexico-Arizona border. Pop. 10,000. Has vacancy at hospital for GP. Contact Carl H. Gans, M.D., Morenci Hospital, Morenci, Ariz.

SAFFORD – Graham County Health Department in need of an M.D. In the heart of the cattle and farming areas of southeastern Arizona. Population of 10,500 and elevation is 2,920. Schools, churches and social facilities are numerous. Contact Mr. Verl Lines, Chairman, Graham County Board of Supervisors, Safford, or Frederick W. Knight, M.D., 618 Central Avenue, Safford.

ST. JOHNS – Seriously need a doctor of medicine, preferably a general practitioner, in this east-central Arizona community. Population is approximately 1,500 with several other small towns in the general area. About 20 miles from New Mexico in the beautiful rim country of Arizona. Contact Donald F. DeMarse, M.D., Box 397, Holbrook, Ariz.

TOLLESON – In need of GP. Serves a trading population of from 12,000 to 15,000. Ten miles west of Phoenix, with elementary and high schools, churches of all denominations. Complete office and equipment for GP is available on reasonable term lease or purchase. Contact Mr. Peter Falbo, president, chamber of commerce, 9112 West Van Buren St., Tolleson, Ariz.

TUCSON – The VA Hospital is in urgent need of an orthopedic surgeon. They prefer someone who is board certified, but would take someone who has had special training as they have the local men in this field available for consultation service. State license is necessary (but not necessarily an Arizona license). Contact S. Netzer, M.D., Director, Professional Service, VA Hospital, Tucson, Ariz.

TUCSON – Young man interested in the practice of internal medicine for junior associateship, Southwestern Clinic & Research Institute, Inc. Excellent opportunity to achieve qualification in the specialty of internal medicine. Contact Charles A. L. Stephens Jr., M.D., 2430 East Sixth Street, Tucson, Ariz.

FOR INFORMATION ON OPPORTUNITIES IN THE FIELD OF INDUSTRIAL MEDICINE, CONTACT:

Harold J. Mills, M.D., Phelps Dodge Hospital, Ajo, Ariz.

Carl H. Gans, M.D., Phelps Dodge Hospital, Morenci, Ariz.

Ira E. Harris, M.D., Miami-Inspiration Hospital, Miami, Ariz.

Charles B. Huestis, M.D., Box 928, Hayden, Ariz.

Elvie B. Jolley, M.D., Copper Queen Hospital, Bisbee, Ariz.

H. W. Finke, M.D., Magma Copper Company Hospital, Superior, Ariz.

John Edmonds, M.D., Kennecott Copper Corporation Hospital, Ray, Ariz.

Francis M. Findlay, M.D., San Manuel Hospital, San Manuel, Ariz.

BOOK REVIEWS

VITALLIUM MOULD ARTHROPLASTY FOR OSTEOARTHRITIS OF THE HIP JOINT
by **Arnt Jackobsen,** M.D. 238 pages. Illustrated. (1957) Macmillan. $9.

A comprehensive summary of our knowledge of osteoarthritis of the hip includes an intelligent and searching review of what happens to patients with corrective vitallium mould arthroplasty. Many X-rays, drawings, and tables of statistics illustrate the 301 cases studied.

Stacey's Medical Books, San Francisco, Calif.

SURGERY OF THE CHEST
by **Julian Johnson,** M.D., and **Charles K. Kirby,** M.D. 2nd ed. 398 pages. Illustrated. (1958) Year Book. $9.75.

This well-known atlas of surgical operations now adds the changes in techniques which have occurred in the last six years. New operations made possible by hypothermia and extracorporeal circulation are described in detail. Physiologic mechanisms pertinent to thoracic surgical procedures are discussed.

Stacey's Medical Books, San Francisco, Calif.

INTERNATIONAL SOCIETY OF HEMATOLOGY
edited by **A. Richardson Jones.** 930 pages. Illustrated. (1958) Grune & Stratton. $25.

Important complete manuscripts from the Proceedings of the Sixth International Congress, Boston, August 1956 are collected in this volume, along with abstracts of recent investigations of the anemias, leukemias, nucleonics, hemorrhagic disorders, and immunohematology. Fine charts, figures, and photographs are included in some of the essays.

Stacey's Medical Books, San Francisco, Calif.

HERMAPHRODITISM, GENITAL ANOMALIES, AND RELATED ENDOCRINE DISORDERS
by **Howard W. Jones,** M.D. and **William Wallace Scott,** M.D. 456 pages. Illustrated. (1958) Williams & Wilkins. $16.

Experts from Johns Hopkins give a thorough account of the medical, surgical, embryologic, and psychiatric aspects of intersexuality including not only all forms of hermaphroditism and anomalies of sex organs but also related endocrine disturbances. Recent treatments are fully covered.

Stacey's Medical Books, San Francisco, Calif.

INTESTINAL OBSTRUCTION
by **Claude E. Welsch,** M.D. 376 pages. Illustrated. (1958) Year Book. $10.50.

A thorough presentation of all types of intestinal obstruction considers the anatomic, physiologic, diagnostic, and therapeutic principles. Excellent diagrams, radiographs, and bibliography support the text.

Stacey's Medical Books, San Francisco, Calif.

Future Meetings

THE ARIZONA MEDICAL ASSOCIATION, INC.

68TH ANNUAL MEETING PROGRAM

IN accordance with direction of the scientific assembly committee at its last meeting, Doctor Melick reviewed progress to date in the development of the program schedule for the 68th annual meeting of the association to be held in Chandler, Ariz., April 28 through May 2, 1959, at the San Marcos Hotel. Below is listed those invited guests who have accepted the invitation:

Bowers, John L. (M.D.) — Dean, University of Wisconsin Medical School.

Carryer, Haddon M. (M.D.) — Mayo Clinic, Rochester, Minn.

Cline, John W. (M.D.) — Associate Professor of Surgery, Stanford University School of Medicine.

Fagg, Jr., Fred Dow (Ph.D.) — President, WICHE.

Gustavson, Reuben G. (Mr.) — President, Resources for the Future.

Hard, Walter L. (M.D.) — Dean, University of South Dakota, School of Medicine.

Jenkins, Harold Dalton (M.D.) — Assistant Professor of Medicine, University of Colorado Medical Center.

Johnson, Marvin E. (M.D.) — Assistant Professor of Surgery, University of Colorado Medical School.

Kessler, Henry H. (M.D.) — Director, Kessler Institute for Rehabilitation.

Lippard, Vernon W. (M.D.) — Dean, Yale University School of Medicine.

Pullen, Roscoe L. (M.D.) — Dean, University of Missouri School of Medicine.

Royce, Thomas L. (M.D.) — Clinical Assistant Professor in Ophthalmology, Baylor University School of Medicine.

Turner, Thomas B. (M.D.) — Dean, Medical Faculty, Johns Hopkins University School of Medicine.

Tuesday, April 28, 1959

1 p.m. — Council meeting.

Wednesday, April 29, 1959

9 a.m. — House of delegates — special session.

2 p.m. — Blue Shield corporate meeting followed by board of directors meeting.

6:30 p.m. — Reception.

7:30 p.m. — Buffet supper.

Thursday, April 30, 1959

8 a.m. — House of delegates — first regular ses-

9:30 a.m. — General session (in usual order).

10 a.m. — Scientific session.

10 a.m.-10:30 a.m. — Henry H. Kessler, M.D.

10:20 a.m.-10:40 am Harold Dalton Jenkins, M.D.

10:40 a.m.-11 a.m. — Thomas L. Royce, M.D.

11 a.m.-11:20 a.m. — Break.

11:20 a.m.-11:40 a.m. — Haddon M. Carryer, M.D.

11:30 a.m.-12 noon — Marvin E. Johnson, M.D.

12 noon-12:20 p.m. — John W. Cline, M.D.

12:20 p.m. — Luncheon (not sponsored).

2:30 p.m. — Surgical Symposium (To be announced).

Friday, May 1, 1959

It was determined that the Friday (May 1, 1959) schedule be as follows:

7:30 a.m. — Breakfast with Doctor John W. Cline as guest speaker.

9 a.m. — Regular sessions on medical education with Doctor John W. Cline as moderator.

9 a.m. — Speaker — Vernon W. Lippard, M.D.

9:20 a.m. — Speaker — Walter L. Hard, Ph.D.

9:40 a.m. — Speaker — Thomas L. Royce, M.D.

10 a.m. — Speaker — John Z. Bowers, M.D.

10:20 a.m. — Speaker — Roscoe L. Pullen, M.D.

12:30 p.m. — Luncheon — Speaker — Mr. Reuben G. Gustavson.

NOTE: No specialty group luncheon meetings to be provided on this day.

2:30 p.m. Panel discussion with Marvin E. Johnson, M.D., Fred Dow Fagg Jr., Ph.D., and Thomas B. Turner, M.D., followed by a medical school workshop symposium.

NOTE: It was suggested that possibly Doctors Johnson and Royce might dwell on the subject: "Relationship of the Private Practitioners to a Medical School."

5 p.m. — Summarization by John W. Cline, M.D.

5:15 p.m. — Press conference.

6:30 p.m. — Reception.

7:45 p.m. — President's dinner dance.

Saturday, May 2, 1959

8 a.m. — House of delegates — second regular session.

10 a.m. — Scientific session (To be announced)

EXHIBITS

Technical:

Provision is being made providing for 48 technical exhibits to be accommodated in the entrance arcades of the San Marcos Hotel, Arizona Attractions, Inc., of Phoenix to be employed for erection of back and side-wing frames, etc. Approved.

Scientific:

It was agreed to provide space for scientific exhibits to the extent of available space. Applications therefor currently in hand include the safety committee and poisoning control committee of the association.

7TH ANNUAL CANCER SEMINAR
Of the Arizona Division
AMERICAN CANCER SOCIETY

January 22-24, 1959 – Paradise Inn – Phoenix, Arizona

THURSDAY, JANUARY 22

9:00 A.M. – OPENING SESSION
Invocation
Introductory Remarks
Edward H. Bregman, M.D.
Chairman, Seminar Committee

9:15-10:00 A.M. – ANEMIA OF MALIGNANT DISEASE
Speaker – Alfred Gellhorn, M.D.
Moderator – Alloys Tallakson, M.D.

10:00-11:15 A.M. – HODGKINS DISEASE, RELATION OF VIRUSES TO HODGKINS DISEASE
Speaker – Warren Bostick, M.D.
Moderator – W. A. Brewer, M.D.

11:15-12:30 P.M. – RECENT ADVANCES IN DIAGNOSIS AND TREATMENT OF CARCINOMA OF THE CERVIX
Speakers – Howard Hunt, M.D., and Alexander Brunschwig, M.D.
Moderator – Darwin Neubauer, M.D.

12:30 LUNCH

2:30-4:30 P.M. – TUMORS OF CENTRAL NERVOUS SYSTEM
Speakers
James W. Kernohan, M.D.
Phillip Hodes, M.D.
Edwin B. Boldrey, M.D.
Moderator – John Eisenbeiss, M.D.

FRIDAY, JANUARY 23

9:00-10:00 A.M. – Rol Laughner Memorial Lecture: Treatment of Malignant Disease in the U.S.S.R.
Speaker
Alexander Brunschwig, M.D.
Moderator – Reed Schupe, M.D.

10:00-10:30 A.M. – A NEW METHOD FOR DIAGNOSIS OF SOLITARY LESIONS OF THE LUNG
Speaker – L. H. Garland, M.D.
Moderator – Robert Leonard, M.D.

10:30-12:00 A.M. – CARCINOMA OF THE LUNG
Speakers
Richard Overholt, M.D.
W. A. D. Anderson, M.D.
Moderator – D. W. Melick, M.D.

12:00 ANNUAL REPORT, AMERICAN CANCER SOCIETY
Kenneth Clark, M.D., Vice President for Medical Affairs, ASC
Moderator – Arthur J. Present, M.D.

2:00-4.30 – CLINICAL AND PATHOLOGICAL DIAGNOSTIC PROBLEMS
All Participants
Moderator – James D. Barger, M.D.

SATURDAY, JANUARY 24

9:00-10:00 A.M. – REVIEW OF CHEMOTHEAPEUTIC AGENTS
Speaker – Alfred Gellhorn, M.D.
Moderator – Thomas Bate, M.D.

10:00-12:00 A.M. – TUMORS OF THE STOMACH
Speakers
L. H. Garland, M.D.
Alexander Brunschwig, M.D.
W.A.D. Anderson, M.D.
Moderator – Paul Jarrett, M.D.

SAT. AFTERNOON – NURSES SEMINAR
Paradise Inn, Phoenix, Arizona

Saturday, Jan. 24

9 a.m. – Opening Session.

Greeting – Robert B. Leonard, M. D.

Welcome – Jefferson I. Brown, R.N.

9:15 a.m. – Nursing and the CA patient – Clare Richmond, R.N.

10:30 a.m. – Nurse and the cytology program – Preston Brown, M.D.

12 noon – Lunch – Medicine and nursing in Russia. Alexander Brunschwig, M.D.

2:30 p.m. – Chemotherapeutic agents and the nurse. Alfred Gellhorn, M. D.

3:30 p.m. – (Subject to be announced). Phillip Hodes, M.D.

Moderator: Robert B. Leonard, M.D.

Co-sponsored by:
Arizona Division, American Cancer Society.
Arizona League of Nurses.
Arizona State Nurses Association.
Arizona State Department of Health.

SPEAKERS AND PANELISTS


Dr. Gellhorn


Dr. Bostick


Dr. Hunt


Brunschwig


Dr. Kernohan

Alfred Gellhorn, M.D. Associate Professor of Medicine and Director, Institute of Cancer Research, Columbia University, New York.

Warren Bostick, M.D. Associate Professor of Pathology, University of California.

Howard Hunt, M.D. Director of Tumor Clinic and Professor of Radiology, University of Nebraska.

Alexander Brunschwig, M.D. Professor of Clinical Surgery, Cornell University Medical School, N. Y. City, N. Y.

James W. Kernohan, M.D. Professor of Pathology, Mayo Foundation, Rochester, Minn.


Dr. Hodes


Dr. Boldrey


Dr. Garland


Dr. Overholt


Dr. Anderson

Phillip Hodes, M.D. Professor of Radiology, University of Pennsylvania, Philadelphia, Pa.

Edwin B. Boldrey, M.D. Associate Professor, Chairman of Dept. of Neurosurgery, University of Calif.

L. H. Garland, M.D. Professor of Radiology, Stanford University; San Francisco, Calif.

Richard Overholt, M.D. Thoracic Surgeon, Clinical Professor of Surgery, Tufts College, Boston, Mass.

W. A. D. Anderson, M.D. Professor of Pathology, University of Florida School of Medicine, Coral Gables, Fla.

For further information write: Edward H. Bregman, M.D., Chairman, Cancer Seminar Committee, American Cancer Society, 543 East McDowell Road, Phoenix, Arizona.

RESEARCH EDUCATION SERVICE ARIZONA DIVISION

DR. Edward H. Bregman, Phoenix Radiologist, has announced the completion of plans for the 7th annual cancer seminar. The event, sponsored yearly by the Arizona Division of the American Cancer Society, will be held Jan. 22, 23 and 24 at Paradise Inn in Phoenix. This year's seminar will also include a one-day session on Jan. 24 for nurses.

Dr. Bregman pointed out that ACS sponsored seminars were pioneered in Arizona and have since been adopted by many groups across the country. The Arizona Cancer Seminar, however, continues to be one of the top medical meetings in the United States, due largely to the fine climate and vacation facilities available to visiting doctors.

This year's Seminar will be the largest ever in scope. Ten internationally famous speakers and panelists from seven states will be featured during the three-day event. Many of these men are in the forefront of the nation's current cancer research efforts. Their subjects will cover the latest diagnostic and treatment techniques as well as up-to-the-minute reports on research. Their remarks will be reported nationwide by science writers and press services.

Dr. Robert Leonard, Professional Education chairman for the ACS, Arizona division, stated that invitations are being extended to all Arizona doctors to attend the Seminar, and that 100 or more out-of-state doctors are expected.

"The Cancer Seminar offers a wonderful opportunity for our local doctors to confer with top specialists. Then, too, as a result of comparing notes with other doctors, the specialists themselves often come up with a new idea which adds impetus to research. So, meetings such as this are highly beneficial to all parties concerned," Dr. Leonard said.

SECOND ANNUAL CARDIAC SYMPOSIUM

ARIZONA HEART ASSOCIATION
Jan. 30, 31, 1959
Arizona Biltmore Hotel, Phoenix

Symposium Committee
Dr. Robert Bullington
Dr. Leslie Kober
Dr. Earl Baker
Dr. David Long
Dr. Shaw McDaniel
Dr. Tom Reed

Friday, Jan. 30

9:00 a.m. — Greetings by Dr. Elmer E. Yeoman, Tucson

9:15-10:15 — "Studies in Spatial Vectorcardiography," Dr. George E. Burch, New Orleans

10:15-10:30 — Intermission

10:30-11:30 — The Problem of Arteriosclerosis, Dr. Irvine H. Page, Cleveland

11:30-12:30 — Changing Concepts in the Surgery of Atherosclerotic Occlusive Diseases, Dr. Michael E. DeBakey, Houston

12:30-2:00 — Lunch

2:00-3:00 — Interesting Aspects of the Aging Process, Dr. George E. Burch, New Orleans

3:00-4:00 — Diagnostic Applications of Indictator Dilution Curves with Particular Reference to Right and Left Heart Sampling, Dr. H. J. C. Swan, Rochester, Minn.

4:00-5:15 — Intermission

4:15-5:00 — Panel Discussion, Dr. Robert H. Bullington, Moderator

7:00-8:00 — Cocktail Party

8:00 — Dinner and Dancing at Arizona Biltmore Hotel

Saturday, Jan. 31

9:00 — Greetings by Dr. Donald K. Buffmire, Phoenix

9:15-10:15 — Subject to be announced later, Dr. S. Gilbert Blount, Denver

10:15-10:30 — Intermission

10:30-11:30 — On the Pulmonary Hypertension Associated with Defects in the Interatrial and Interventricular System, Dr. H. J. C. Swan, Rochester, Minn.

11:30-12:30 — Surgical Consideration of Aneurysms of the Aorta, Dr. Michael E. DeBakey, Houston

12:30-2:00 — Luncheon

2:00-3:00 — The Nature and Treatment of Hypertension, Dr. Irvine H. Page, Cleveland

3:00-4:00 — Subject to be announced later, Dr. S. Gilbert Blount, Denver

4:00-4:15 — Intermission

4:15 — Panel Discussion, Dr. Elmer E. Yeoman, Tucson, Moderator.

GENETICS AND CANCER

Topic of 13th Annual Symposium on Fundamental Cancer Research, Feb. 26, 27 *and* 28, 1959 *at the University of Texas M. D. Anderson Hospital and Tumor Institute, Houston, Texas. Thursday, Feb.* 26

Fundamental Aspects of Genetics in Carcinogenesis, I: Chairman, Wilson S. Stone: The University of Texas, Austin, Texas

9 a.m. — Gene Action: David M. Bonner, Yale University, New Haven, Conn.

9:40 — DNA Metabolism and Carcinogenesis: Saul Kit, The University of Texas M. D. Anderson Hospital and Tumor Institute, Houston, Texas

10:15 — *Intermission*

10:30 — Macromolecular Synthesis and Gene Function: Alfred E. Mirsky, Rockefeller Institute for Medical Research, New York, N. Y.

11:10 — Genetic Replication and Carcinogenesis: Felix L. Haas and Charles O. Doudney, The University of Texas M. D. Anderson Hospital and Tumor Institute, Houston, Texas

11:50 — Radiation in Relation to Carcinogenesis and Mutation: R. Latarjet, Institute Pasteur, Paris, France

12:30 p.m. — *Lunch*

Fundamental Aspects of Genetics in Carcinogenesis, II: Chairman, M. Demerec, Carnegie Institution, Cold Spring Harbor, N. Y.

2 p.m. — The Plasmagene Theory and Cancer Genesis: C. D. Darlington, Oxford University, Oxford, England

2:40 — The Somatic Mutation Theory of Cancer Genesis: Jack Schultz Institute of Cancer Research, Philadelphia, Pa.

3:20 — Lysogeny, Transduction and Cancer Genesis: Elie Wollman, Institute Pasteur, Paris, France

4 — *Intermission*

4:15 — Cancer Viruses in Mammals and the Possibility of Lysogenic Origin: L. L. Dmochowski, The University of Texas M. D. Anderson Hospital and Tumor Institute, Houston, Texas

4:55 — Genetic Determination of Cancer Sus-

ceptibility: Lloyd Law, National Cancer Institute, Bethesda, Md.

Friday, Feb. 27

Gene Interaction in Neoplastic Growth: Chairman, T. S. Painter, The University of Texas, Austin, Texas

9 a.m. — Site of Gene Action and Carcinogenesis: W. Heston, National Cancer Institute, Bethesda, Md.

9:40 — Cytogenetics of Experimental Tumors: George Klein, Karolinska Institute, Stockholm, Sweden

10:15 — *Intermission*

10:30 — Immunogenetics of Transplanted Skin: Theodore S. Hauschka, Roswell Park Memorial Institute, Buffalo, N. Y.

11:10 — Genetics of Vitro Cells: T. C. Hsu, The University of Texas M. D. Anderson Hospital and Tumor Institute, Houston, Texas

11:50 — Relations of the Chromosome Status to the Origin and Progressioin of Tumors: Albert Levan, University of Lund, Lund, Sweden

12:30 p.m. — *Lunch*

Genetic Basis of Cell Resistance: Chairman, W. E. Heston, National Cancer Institute, Bethesda, Md.

2 p.m. — Genetic Aspects of Bovine Ocular Carcinoma: David Anderson, The University of Texas M. D. Anderson Hospital and Tumor Institute, Houston, Texas

2:40 — The Chromosomal Status of Drug-Resistant Sublines of Mouse Leukemia L 1210: John Biesele, The University of Texas, Austin, Texas

3:20 — Tumor Cell Resistance to Antimetabolites and Its Possible Genetic Implications: George W. Woolley, Sloan-Kettering Institute, New York, N. Y.

4 — *Intermission*

4:15 — Bertner Foundation Lecture (Speaker and topic to be announced)

Saturday, Feb. 28

Heredity and Human Cancer: Chairman, James F. Crow, University of Wisconsin, Madison, Wis.

9 a.m. — Genetics of Man: William J. Schull, The University of Michigan, Ann Arbor, Mich.

9:40 — Methods of Study of Human Genetics: Newton Morton, University of Wisconsin, Madison, Wis.

10:15 — *Intermission*

10:30 — Genetic Considerations in Human Breast, Gastric and Eye Cancer, Madge Macklin, Ohio State University, Columbus, Ohio

11:10 — Genetic Studies on Families with High Cancer Incidence: Clarence P. Oliver, The University of Texas, Austin, Texas

11:50 — Summarizing Remarks: Howard B. Andervont, National Cancer Institute, Bethesda, Md.

For further information regarding the symposium, please contact the Editorial Office, The University of Texas M. D. Anderson Hospital and Tumor Institute, Houston, Texas.

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Physiological and Clinical Considerations of the Gastrointestinal Tract

Wednesday, Dec. 17, 1958
Physiological and Clinical Considerations of Respiration

Wednesday, Jan. 7, 1959
Physiological and Clinical Considerations of the Kidney

Wednesday, Jan. 21, 1959
Physiological and Clinical Considerations of the Nervous System

Wednesday, Feb. 4, 1959

Meeting place for all courses:
Room A 3-215 University of California Medical Center, Los Angeles.

Dates: Dec. 17, 1958, Jan. 7, 21, and Feb. 4, 1959.

Time: 2 to 10 p.m.

Fee: $20 for one day.

Information: Requests for application or information concerning these courses should be made to:

Thomas H. Sternberg, M.D.
Assistant Dean for Postgraduate
Medical Education
University of California Medical Center
Los Angeles 24, Calif, or telephone:
GRanite 8-9711 or BRadshaw 2-9811, Ext. 7114

THE SOUTHWESTERN SURGICAL CONGRESS

Denver, March 30, through April 2, 1959. Headquarters — Brown Palace Hotel.

THE AMERICAN CONGRESS OF PHYSICAL MEDICINE AND REHABILITATION

THE 37th annual scientific and clinical session of the American Congress of Physical Medicine and Rehabilitation will be held Aug. 30-Sept. 4, 1959 inclusive, at the Hotel Leamington, Minneapolis.

Scientific and clinical sessions will be given Aug. 31, Sept. 1, 2, 3 and 4. All sessions will be open to members of the medical profession in good standing with the American Medical Association and/or state or country medical association.

Full information may be obtained by writing to the Executive Secretary, Dorothea C. Augustin, American Congress of Physical Medicine and Rehabilitation, 30 North Michigan Avenue, Chicago 2, Ill.

LOS ANGELES RADIOLOGICAL SOCIETY

THE 11th annual mid-winter radiological conference, sponsored by the Los Angeles Radiological Society, will be held at the Statler Hotel, Los Angeles, Calif. on Saturday and Sunday, Jan. 31 and Feb. 1, 1959.

An outstanding program of pertinent interest has been arranged and the guest speakers will be: Dr. Peter Kerley, London, England; Professor D. W. Smithers, London, England; Dr. F. N. Silverman, Cincinnati, Ohio; Dr. A. Finkelstein, Philadelphia, Pa.

The conference fee of $20 includes two luncheon meetings featuring questions and answers. A banquet ($7.50 per plate) preceded by cocktails will be held Saturday evening. Reservations may be made through: Dr. Chester P. Bonoff, 1930 Wilshire Blvd., Los Angeles 57, Calif.

CALENDAR OF MEETINGS

DATE	MEETINGS	PLACE
Jan. 1959		
4-7	Southeastern Region Meeting International Coll. of Surgeons	Miami, Fla.
Feb.		
5-8	American Coll. of Radiology, Annual Meeting	Chicago, Ill.
March		
9-12	AMA 4-day Sectional Meeting	St. Louis, Mo.
16-20	National Health Council Annual Meeting	Chicago, Ill.
30 - Apr. 2	Southwestern Surg. Congress	Denver, Colo.
April		
6-8	American Radium Society	Homestead Hotel, Hot Springs, Va.
6-9	American Academy of General Practice	San Francisco, Calif.
9-12	American Ass'n. for Cancer Research Inc.	Haddon Hall, Atlantic City, N. J.
20-23	American Ass'n. Pathologists & Bacteriologists	Boston, Mass.
20-24	American College of Physicians	Conrad Hilton Hotel, Chicago, Ill.
28 - May 2	Arizona Medical Association	Chandler, Ariz.

BOOK REVIEWS

PHYSICIAN'S HANDBOOK
by Marcus A. Krupp, M.D., Norman Sweet, M.D., Ernest Jawetz, M.D., and Charles Armstrong, M.D. 10th rev. ed. 500 pages. (1958) Lange. $3.

One of the best buys in medical literature, this handy, pocket size volume puts diagnostic and therapeutic procedures of practical value within quick reach during daily hospital and office practice. The authors are with the schools of medicine at Stanford University, and the University of California, San Francisco.

Stacey's Medical Books, San Francisco, Calif.

Woman's Auxiliary

REPORT OF CHICAGO CONFERENCE

By Mrs. Hiram Cochran, President-elect,
Auxiliary to the Arizona Medical Association

THE 15th annual conference of state presidents, presidents-elect, and national committee chairmen held at the Drake Hotel in Chicago was an informative and inspiring affair. For two and a half days we listened to approximately 75 people, representing the American Medical Association, the national auxiliary and many other national organizations, give us "the word" on all matters pertaining to our auxiliary program.

The theme of this conference, "Auxiliaries in Action," was certainly lived up to as state presidents and national committee chairmen reported on the work of the past and outlined the plans for the future.

In an AMA round-up, Dr. E. B. Howard, assistant executive vice president, talked of the reorganization that the AMA has been undergoing for the past year. Included in this is the remodeling of the AMA headquarters building and the starting of the AMA News, the newspaper of American medicine, published twice a month. The newly organized American Medical Research Foundation was explained and Medicare, (care for service people) was discussed. Dr. Howard was the first of many of the speakers to bring up the subject of the aged and what AMA is attempting to do in regard to this matter. It seemed to be the opinion of all who spoke on this subject that it was a problem and one that medicine must take a definite interest in if we are to combat the increasing demands of the government for such legislation as the Forand bill. He stressed the need for the auxiliaries and medical societies to ally themselves with other organizations in trying to solve the problems of the aged.

Mr. Joseph Stetler, director of the law division of the AMA, and Mr. Warren Whyte, executive secretary of the committee on legislation, elaborated on the Forand bill and Jenkins-Keogh. It was their opinion that the Forand bill would continue to be back in every congress until it is proved just what it is, socialized medicine. They also felt that the answers to problems associated with aging and the aged must be made at the grass root level. There will be conferences held in each state in 1959 with a White House conference planned for 1960. They urged all county and state auxiliaries and societies to participate in these conferences.

Membership panelists gave us the answers to some of the problems concerning membership in the large auxiliaries, the new members, and the member-at-large. We were asked to "think anew, act anew." Learn to fit the jobs to the individual members and be sure that there are activities planned for *all* members.

Mrs. Turner, historian and past national president, asked us not to forget the past because we have so much invested in it, and that we find many of our answers to the present in the things of the past.

Mr. James Liston, the new editor of Today's Health, told us this was to be an "E. E. Year" Extra Effort on the part of every auxiliary member to be a subscriber to the magazine and see that there was a copy in every doctor's and dentist's office.

Community service is an old committee with a new name. Known formerly as public relations, it was felt that the new name was more indicative of the committee's main function. As Mrs. Jack Kennedy, chairman of the committee said, "Community service is the act, public relations is the result." Here again we were urged to work in the community, as individuals and as auxiliary members. We were told that the community is like a living body, constantly growing and changing. How well or how poorly depends upon the individual citizen. It is our duty as auxiliary members to keep people aware of the changes in medicine and health care. Be informed ourselves, then inform others.

The panel devoted to paramedical careers recruitment was extremely informative and interesting. In addition to our big interest in the nurse recruitment field, they felt that the time has come when we must broaden our interest and increase our knowledge of the other allied fields of medicine such as medical technology, physical therapy, dietetics and the medical social worker, to name a few.

The civil defense members again stressed home preparedness and said that civil defense should be a joint endeavor of the federal gov-

ernment, state and local groups. They asked that we "evacuate" the thought from our minds that "it can't happen here."

It is almost an impossible task to put down on paper the wealth of information and data we received at this conference. But I feel that the purpose of the meeting, "the exchange of ideas and enrichment of our auxiliary lives," was accomplished, and I am truly grateful to have had the privilege of being just one of the 125 women who were there representing our 80,000 auxiliary members.

BOOK REVIEWS

THE MEDICAL WORLD OF THE 18TH CENTURY
by **Lester S. King**, M.D. 346 pages. (1958) University of Chicago. $5.75.

A series of 10 essays deals with interesting and certain not commonly reported aspects of the science and art of medicine of the time. Representative topics include: apothecary and physician; Herman Boerhaave, scientist; of fevers, the development of medical ethics. If you like history, you will not easily put this down.

Stacey's Medical Books, San Francisco, Calif.

RECENT ADVANCES IN OTOLARYNGOLOGY
by **F. Boyes Korkis**, FRCS. 3rd ed. 438 pages. Illustrated. (1958) Little, Brown. $12.

An expert from London appraises world literature in an effort to screen out practical information for physicians in their daily practice. Not intended to compete with standard texts, only the latest advances in the medical and surgical aspects of diagnosis and treatment are included.

Stacey's Medical Books, San Francisco, Calif.

A MANUAL OF CARDIAC RESUSCITATION
by **Robert M. Hosler**, M.D. 2nd ed. 208 pages. Illustrated. (1958) Thomas. $5.

The author has collaborated with Dr. Claude S. Beck in his original work on cardiac arrest. This second edition presents concisely and clearly the step-by-step practical scientific approach to the problem of cardiac resuscitation. Every surgeon, practitioner and dentist should have this awareness and be ever ready for speedy action.

Stacey's Medical Books, San Francisco, Calif.

REGIONAL ILEITIS
by **Burrill B. Crohn**, M.D. and **Harry Yarnis**, M.D. 2nd ed. 239 pages. Illustrated. (1958) Grune & Stratton. $7.25.

Dr. Crohn, who first described the disease, brings his experience up to date in this monograph. Analyzing 676 cases, he discusses etiology, pathology, clinical features, diagnosis, and problems in physiology along with medical and surgical management. The volume is well illustrated and includes many radiographs.

Stacey's Medical Books, San Francisco, Calif.

THE LIFE OF SIR WILLIAM OSLER, Vol. 1 and 2
by **Harvey Cushing**, M.D. 1,413 pages. (1958) Oxford. $15 set.

Originally published in 1925 in a two volume edition. *"The Life of Sir William Osler"* appeared in 1940 in a single volume. It now appears again in two volumes, apparently printed from the original plates. There are only a few books each decade which survive their initial acclaim and become enduring classics. This is such a book. It won the Pulitzer prize for biography the year it was published and has since continued to win a place in the hearts of thousands of readers. Dr. Cushing's biography is not simply a memoir, but the story of a man whose ideas are still a directing force in the contemporary medical world. As Dr. Karl A. Menninger has said, *"The Life of Sir William Osler* will remain one of the classical biographies of our profession for at least the rest of this century."

Stacey's Medical Books, San Francisco, Calif.

SIGNS, SYMPTOMS AND TREATMENT OF CERTAIN ACUTE INTOXICATIONS
by **William B. Deichmann** and **Horace W. Gerarde**, M.D. 2nd ed. 154 pages. (1958) Thomas. $3.75.

The development of new insecticides and industrial poisons led to this revision. Over 400 new entries have been added, together with a numerical-alphabetical system of indexing to expedite use of the reference in emergencies.

Stacey's Medical Books, San Francisco, Calif.

*Adapted from Godfrey & Smith.[4] Staphylococci studied were strains isolated from 20 patients in a general hospital.

INDEX TO ADVERTISERS

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Usual adult dose is 250 mg. every six hours; for severe infections, usual dose is 500 mg. every six hours. Child's dose may be reduced in proportion to body weight.

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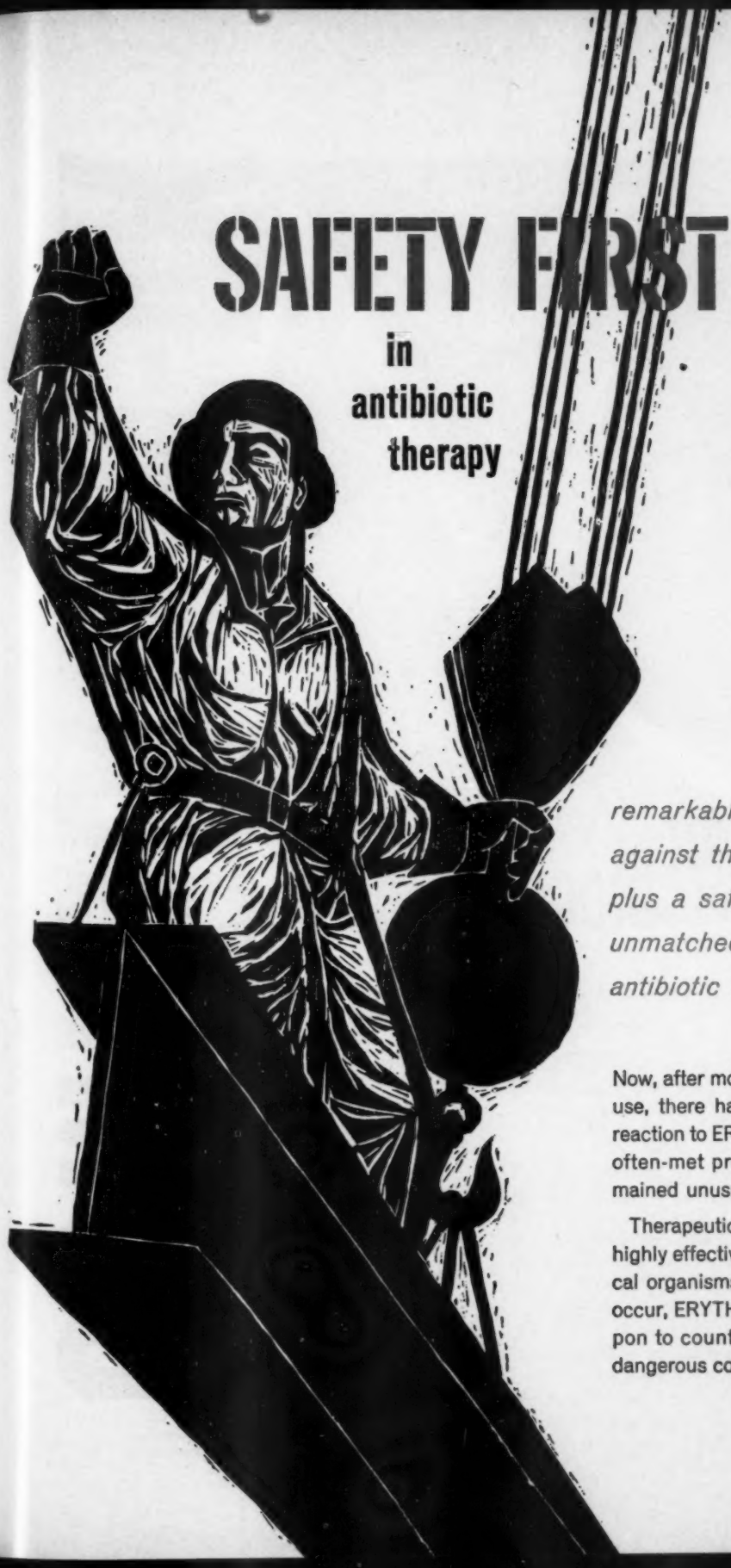

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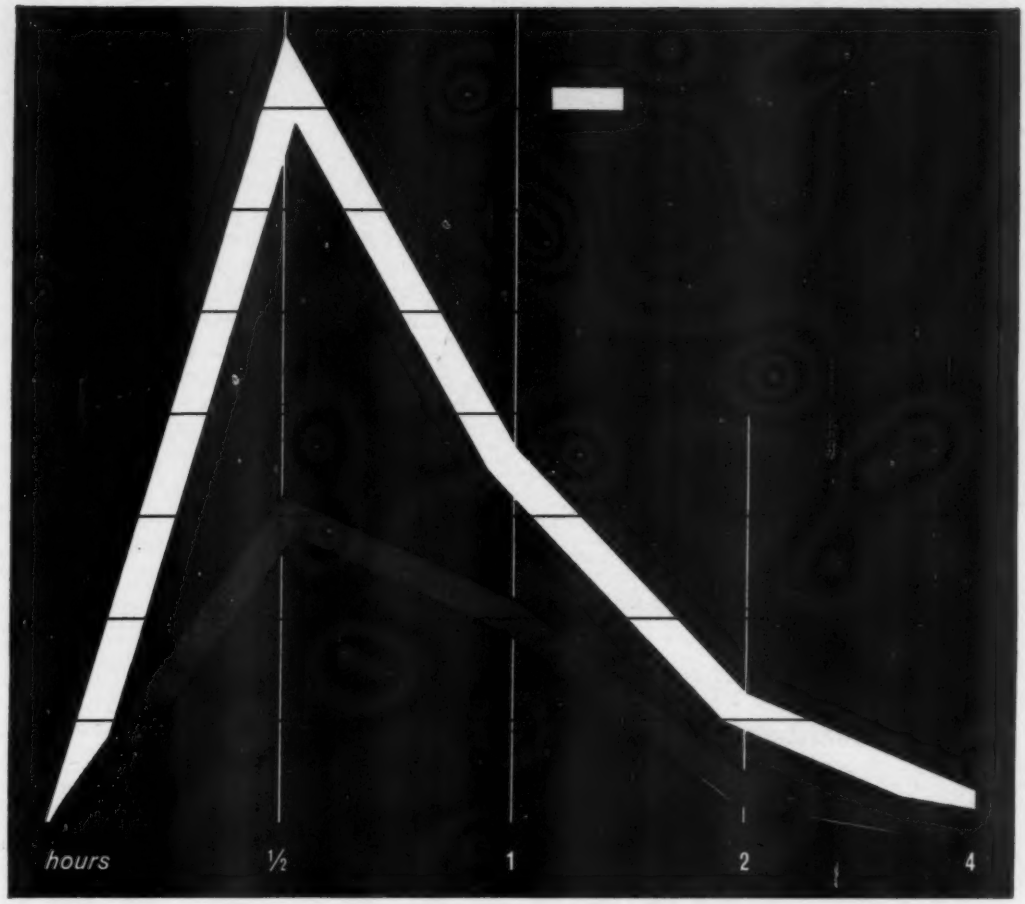

NOW, IN BOTH FILMTAB AND ORAL SOLUTION, patients get high penicillin V blood levels with COMPOCILLIN-VK. Note the chart. Concentrations are three times higher than an equivalent dose of potassium penicillin G.

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Against all organisms sensitive to oral penicillin therapy. For prophylaxis and treatment of complications in viral conditions. And as a prophylaxis in rheumatic fever and rheumatic heart disease.

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Depending on the severity of the infection, the usual adult dose is 125 to 250 mg. (200,000 to 400,000 units) every four to six hours. For children, dosage may be reduced in proportion to body weight.

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Now, after just 12 months, SPONTIN has become an outstanding drug of choice against resistant staphylococci, and in other serious coccal infections.

Six papers presented at the Antibiotics Symposium[1] reported the effectiveness of SPONTIN against resistant staphylococcal infections. Clinical reponses involved enterococcal endocarditis, staphylococcal pneumonias and staphylococcal bacteremias. Many of these patients were going downhill steadily—in spite of treatment by other antibiotics.

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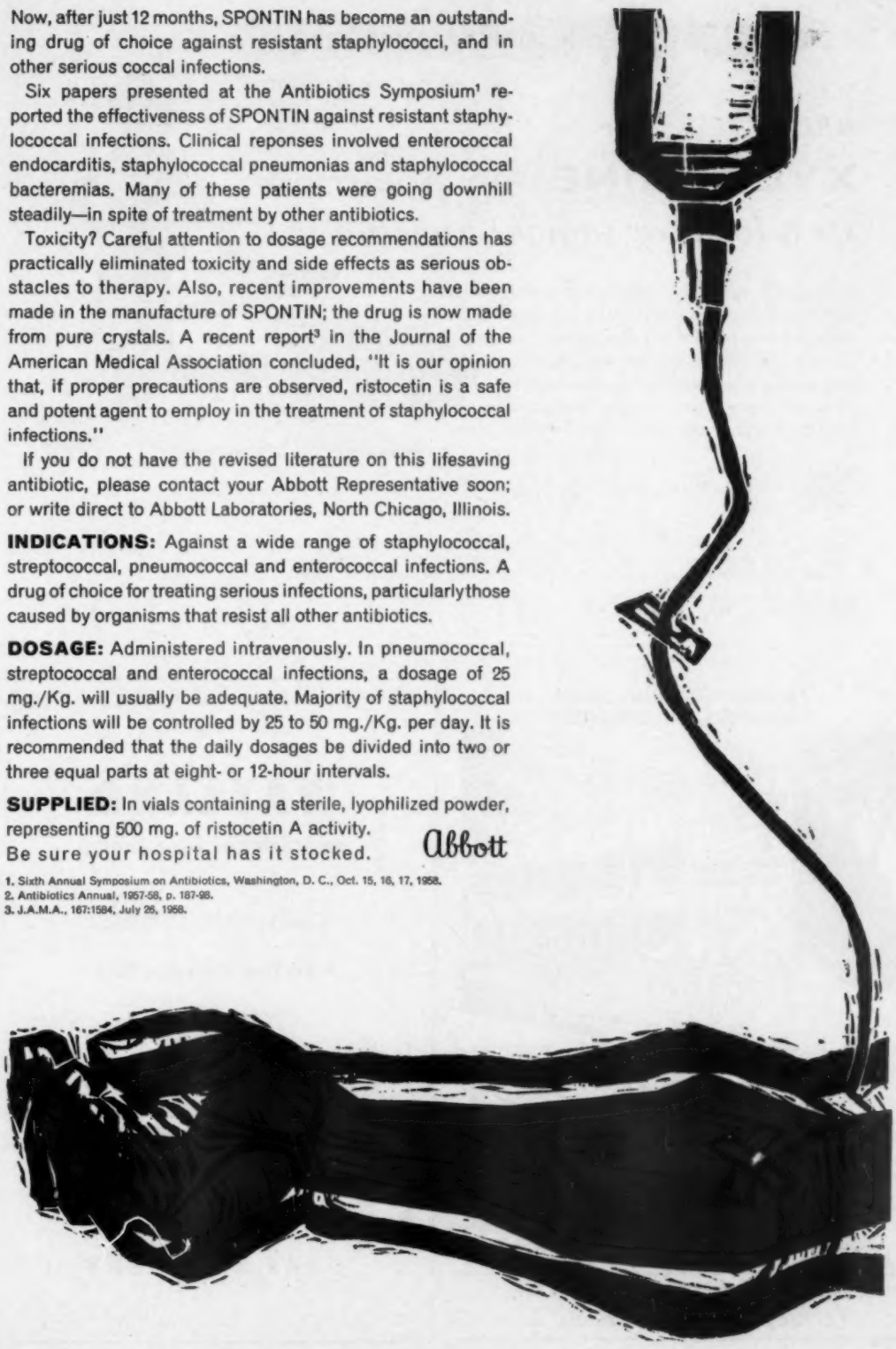
If you do not have the revised literature on this lifesaving antibiotic, please contact your Abbott Representative soon; or write direct to Abbott Laboratories, North Chicago, Illinois.

INDICATIONS: Against a wide range of staphylococcal, streptococcal, pneumococcal and enterococcal infections. A drug of choice for treating serious infections, particularly those caused by organisms that resist all other antibiotics.

DOSAGE: Administered intravenously. In pneumococcal, streptococcal and enterococcal infections, a dosage of 25 mg./Kg. will usually be adequate. Majority of staphylococcal infections will be controlled by 25 to 50 mg./Kg. per day. It is recommended that the daily dosages be divided into two or three equal parts at eight- or 12-hour intervals.

SUPPLIED: In vials containing a sterile, lyophilized powder, representing 500 mg. of ristocetin A activity.
Be sure your hospital has it stocked. Abbott

1. Sixth Annual Symposium on Antibiotics, Washington, D. C., Oct. 15, 16, 17, 1958.
2. Antibiotics Annual, 1957-58, p. 187-98.
3. J.A.M.A., 167:1584, July 26, 1958.



Relieve moderate or severe pain

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Exactly how does new Halodrin* restore the "premenopausal prime" in postmenopausal women?

Webster defines "prime" as the period of greatest health, strength, and beauty. In a woman, these are the childbearing years between puberty and menopause—the years when her hormone production is highest.

The inevitable reduction in this hormone production as she enters the menopause often results in physical discomfort in the form of hot flushes, nervousness, insomnia, or a multiplicity of other symptoms with which you are familiar. Superimposed on this physical picture is the psychic trauma brought on by this unavoidable evidence of aging. The thing that brings her to a physician is simply that she "feels bad."

You can't make her 35 again—but the odds are good that you can make her feel like it! The secret is a combination of reassurance and hormones. The exact form and amount of the former defy objective analysis, but the latter can now be provided with scientific precision. Reduced to essentials, here is the explanation of exactly how hormones—in the form of Upjohn's new Halodrin—restore the "premenopausal prime."

The normal premenopausal woman excretes estrogens in the urine in the form of estradiol, estrone, and estriol, in an approximate 28-day average ratio of 39:15:46. Starting with this urinary excretion of estrogens, it is possible to calculate backwards and estimate the amount of estradiol that must have been secreted endogenously in order to produce these urinary levels. This is possible because the proportion of estrogens which appears in the urine following parenteral administration has been established in castrated women.

On this basis, the average endogenous output of estrogens is about 160 micrograms per day during a menstrual cycle, and 80 micrograms per day in postmenopausal women (see chart opposite). Therefore, the restoration of the "premenopausal prime" in the postmenopausal woman requires the replacement of approximately the equivalent of the 80 micrograms of estradiol per day that she no longer secretes endogenously.

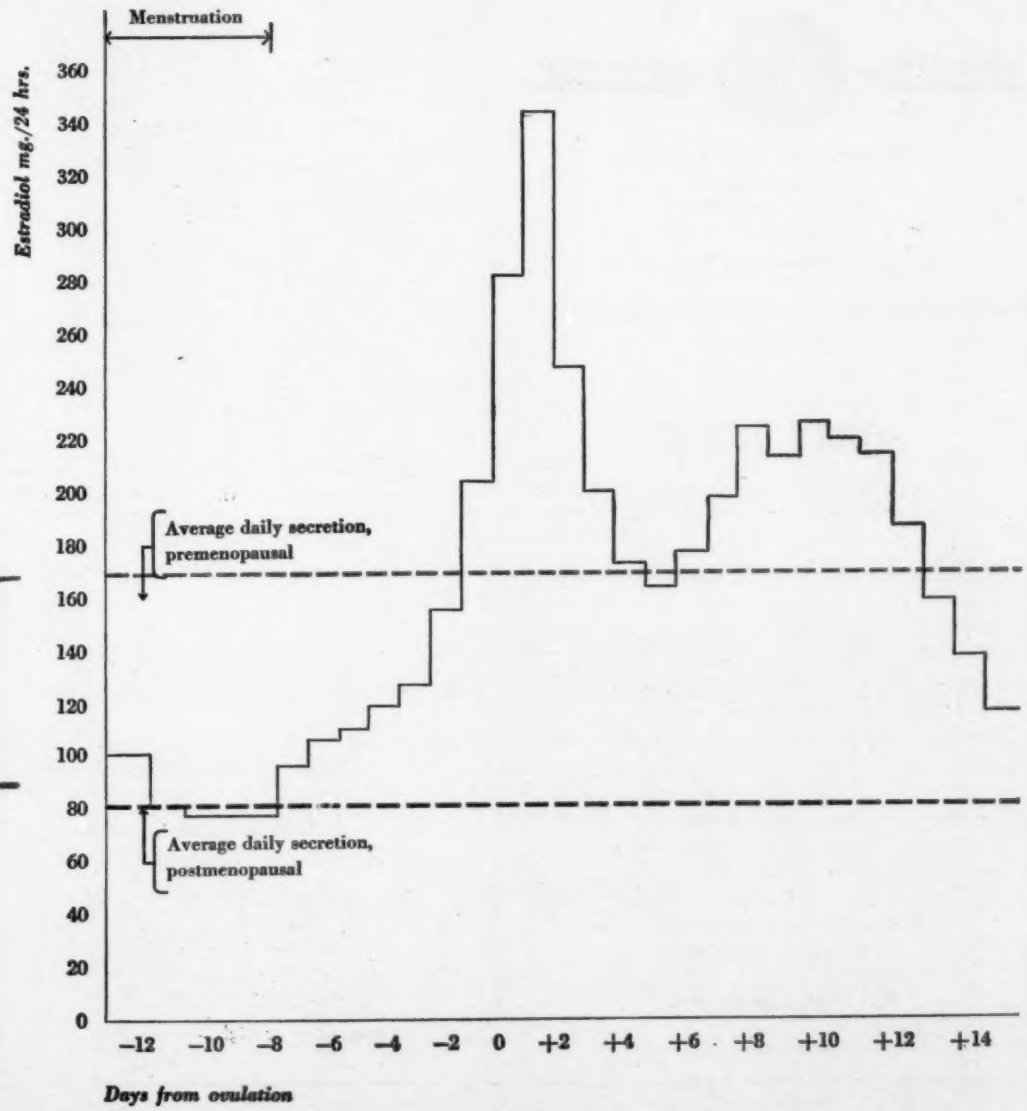
Oral ethinyl estradiol is about 2 to 2½ times as potent as parenteral estradiol. Therefore, the replacement of 80 micrograms of endogenous estradiol production per day is accomplished by the oral administration of 32 to 40 micrograms of ethinyl estradiol per day.

Each Halodrin tablet contains 20 micrograms of ethinyl estradiol, which means that the recommended dosage of 2 tablets per day provides 40 micrograms of ethinyl estradiol. This offsets the loss of 80 micrograms of endogenous estradiol production in the menopausal woman; i.e., restores the "premenopausal prime."

Each Halodrin tablet also contains 1 mg. of Upjohn-developed Halotestin* (fluoxymesterone)—the most potent oral androgen known. The primary purpose is to "buffer" the ethinyl estradiol just enough to prevent breakthrough bleeding, which is obviously undesirable in the menopause. It also exerts other beneficial hormonal effects, one of which, in common with ethinyl estradiol, is a powerful anabolic action so desirable in patients of advanced years.

Upjohn

Endogenous estrogen secretion (mg./24 hours)
(calculated from average 24-hour urinary excretion of estradiol, estrone, and estriol)



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The great corticosteroid era
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Today, MERCK SHARP & DOHME proudly
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achievement of the first corticosteroid
decade—DECADRON (dexamethasone)
—a new and unique compound, which
brings a new order of magnitude
to corticosteroid therapy.

Decadron

to treat more patients more effectively

MSD

a new order of magnitude

In Anti-Inflammatory Potency

DECADRON "possesses greater anti-inflammatory potency per milligram than any steroid yet produced,"[1] and is "the most potent steroid thus far synthesized."[2] Milligram for milligram, it is, on the average, 5 times more potent than 6-methylprednisolone or triamcinolone; 7 times more potent than prednisone; 28 times more potent than hydrocortisone; and 35 times more potent than cortisone.

In Dosage Reduction

Thanks to this unprecedented potency, DECADRON is "highly effective in suppressing the manifestations of rheumatoid arthritis when administered in remarkably small daily milligram doses."[3] In a number of cases, doses as low as 0.5-0.8 mg. proved sufficient for daily maintenance. The average maintenance dosage in rheumatoid arthritis is about 1.5 mg. daily.

In Elimination and Reduction of Side Effects

Virtual absence of diabetogenic activity, edema, sodium or water retention, hypertension, or psychic reactions has been noted with DECADRON.[1,2,3,4] Other "classical" reactions were less frequent and less severe. DECADRON showed no increase in ulcerogenic potential, and digestive complaints were rare. Nor have there been any new or "peculiar" side effects, such as muscle wasting, leg cramps, weakness, depression, anorexia, weight loss, headache, dizziness, tachycardia or erythema. Thus DECADRON introduces a new order of magnitude in safety, unprecedented in corticosteroid therapy.

In Therapeutic Effectiveness

With DECADRON, investigators note "a decided intensification of the anti-inflammatory activity"[3] and antirheumatic potency.[4] Clinically, this was manifested by a higher degree of improvement in many patients, previously treated with prednisteroids,[3] and by achievement of satisfactory control in an impressive number of recalcitrant cases.[3,4]

In Therapeutic Range

More patients can be treated more effectively with DECADRON. Its higher anti-inflammatory potency frequently brings relief to cases resistant to other steroids. Virtual freedom from diabetogenic effect in therapeutic dosage permits treatment of many diabetics without an increase in insulin requirements. Absence of hypertension and of sodium and fluid retention allows effective therapy of many patients with cardiovascular disorders. Reduction in the incidence and severity of many side effects extends the benefits of therapy to numerous patients who could not tolerate other steroids. And a healthy sense of well-being, reported by nearly all patients on DECADRON, assures greater patient cooperation.

References:

1. Boland, E.W.: California Med. 88:417 (June) 1958.
2. Bunim, J.J., et al.: Arthr. & Rheum. 1:313 (Aug.) 1958.
3. Boland, E.W., and Headley, N.E.: Paper read before the Am. Rheum. Assoc., June 21, 1958, San Francisco, Cal.
4. Bunim, J.J., et al.: Paper read before the Am. Rheum. Assoc., June 21, 1958, San Francisco, Cal.

To treat more patients more effectively in all allergic and inflammatory disorders amenable to corticosteroid therapy

DOSAGE AND ADMINISTRATION

With proper adjustment of dosage, treatment may ordinarily be changed over to DECADRON from any other corticosteroid on the basis of the following milligram equivalence:

One 0.75 mg. tablet of DECADRON (dexamethasone) replaces:

↓ One 4 mg.	↓ One 5 mg.	↓ One 20 mg.	↓ One 25 mg.
tablet of methylprednisolone or triamcinolone	tablet of prednisolone or prednisone	tablet of hydrocortisone	tablet of cortisone

SUPPLIED:

As 0.75 mg. scored pentagon-shaped tablets; also as 0.5 mg. tablets to provide maximal individualized flexibility of dosage adjustment.

Detailed literature is available to physicians on request.

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a new order of magnitude in corticosteroid therapy

The great corticosteroid era
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Today, MERCK SHARP & DOHME proudly
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brings a new order of magnitude
to corticosteroid therapy

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to treat more patients more effectively

MSD MERCK SHARP & DOHME

Printed in U.S.A.

why wine in digestive disorders?

Although the effects of wine on the digestive system have been discussed for centuries, it has been only in recent years that many of its physiological attributes have been determined.

WINE AND THE SALIVARY GLANDS—The increase in salivary flow following a moderate intake of wine is apparent almost immediately,[1] such increase being attributed to direct sensitization of secretory nerve endings.[2]

WINE AND GASTRIC SECRETION—With a pH averaging 3.2, wine resembles gastric juice more closely than does any other natural beverage. Its tannins, organic acids and salts of these acids serve as buffering agents to maintain this pH. Relatively low in content of alcohol, table wine has been found to stimulate gastric secretion and induce production of gastric juice high in hydrochloric acid, sodium chloride, rennin and pepsin.[3]

WINE AND THE DIGESTIVE TRACT—With its low concentration of alcohol, wine in moderate consumption has been found to induce a marked increase in biliary flow.[4] This, together with increased function of pancreatic enzymes, may thus encourage better digestion of fatty foods.

THEREFORE—IN THE TREATMENT OF DIGESTIVE DISORDERS—Wine is being widely recommended in the treatment of anorexia, hypochlorhydria without gastritis, mucous colitis, spastic constipation and diarrhea, and in digestive disorders stemming from emotional tension and anxiety.

These and other modern ℞ uses for wine are discussed in the brochure "Uses of Wine in Medical Practice." For your free copy write—Wine Advisory Board, 717 Market Street, San Francisco 3, California.

1. Winsor, A. L. and Strongin, E. I.: J. Exper. Psychol. 16:589 (1933).
2. Beazell, J. M., and Ivy, A. C.: Quart. J. Studies on Alc. 1:45 (1940).
3. Faray, G., and Weissenbach, R. J.: Hôpital 25:306 (1937).
4. Okada, S.: J. Physiol. 49:457 (1915).

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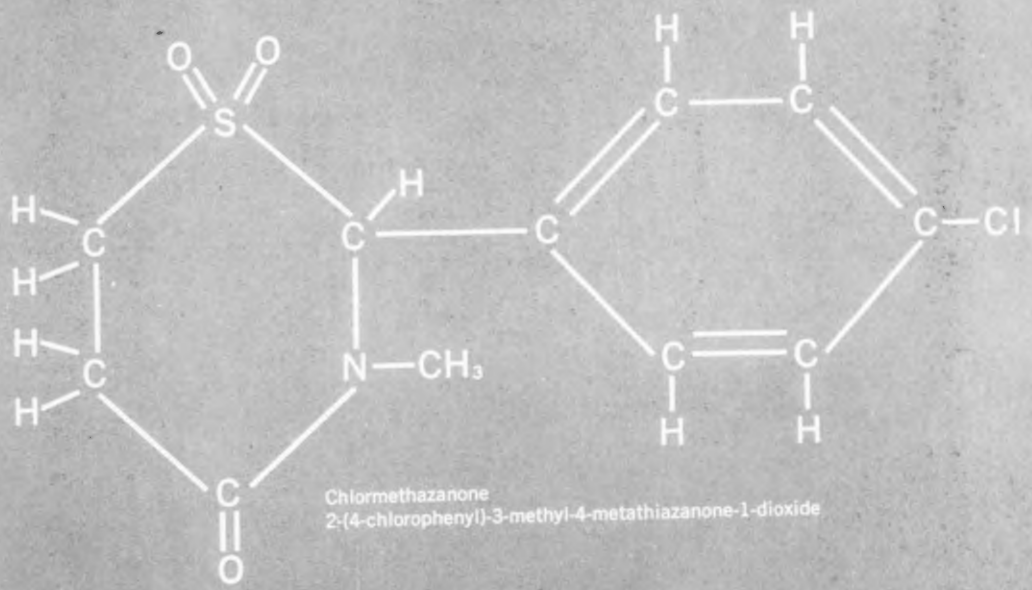
a completely new major chemical contribution to therapeutics



Chlormethazanone
2-(4-chlorophenyl)-3-methyl-4-metathiazanone-1-dioxide

unrelated chemically to any other drug in current use

designed to be equally effective as both

a MUSCLE RELAXANT

a TRANQUILIZER

Trancopal

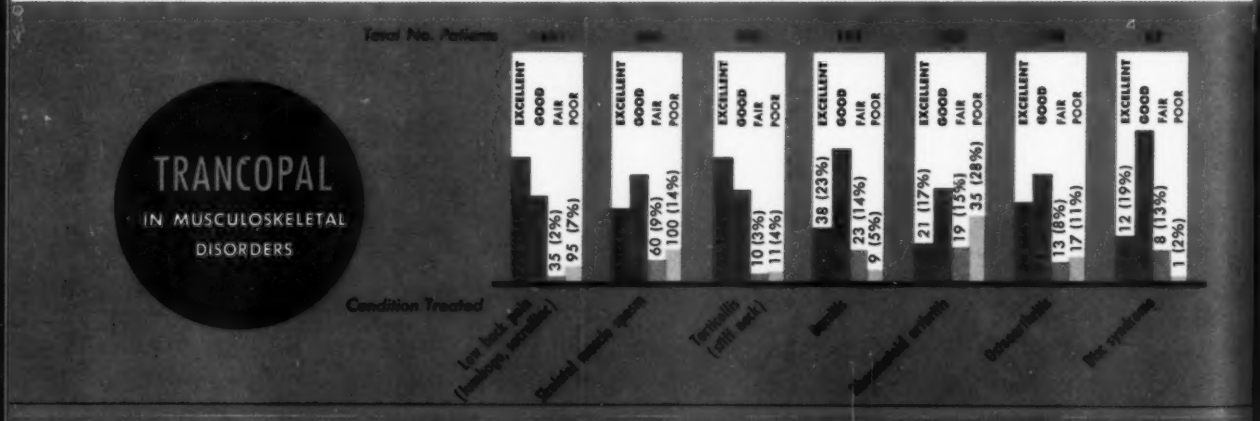
*the first true "TRANQUILAXANT"**

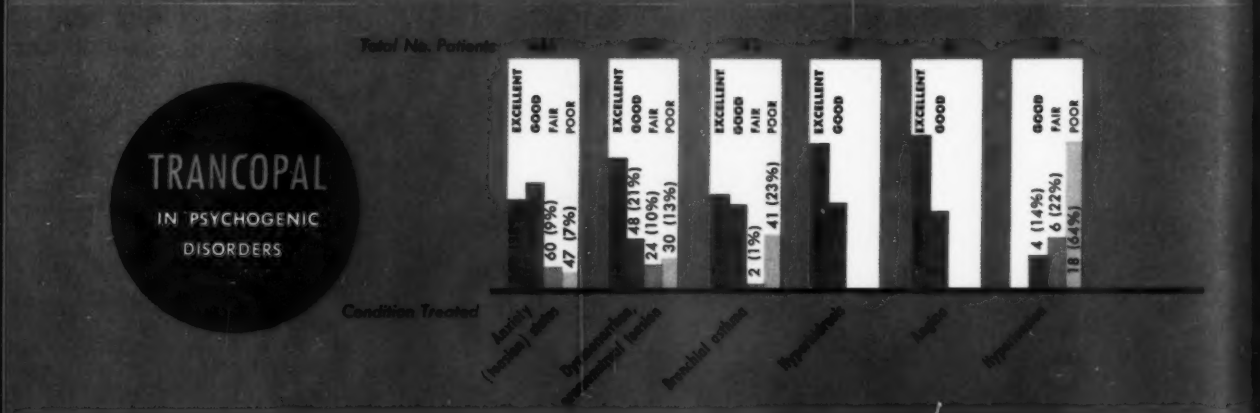
offering new freedom for your patients... from muscle spasm, from tension and anxiety, from side effects

* **tran-qui-lax-ant** (tran'kwi-lak'sant) [< L. tranquillus, quiet; L. laxare, to loosen, as the muscles]

EXCEEDS OLDER DRUGS UP TO 4 TIMES IN PERCENTAGE OF CLINICAL EFFICACY (Lichtman)

The results of clinical studies of over 4000 patients by 105 physicians demonstrate that TRANCOPAL often is effective when other drugs have failed. From these studies it is clear that TRANCOPAL probably can provide more help for a greater number of tense, spastic, and/or emotionally upset patients than any other chemotherapeutic agent in current use.





TRANCOPAL... the first true "tranquilaxant"

Both a muscle relaxant and a calmative agent.

In musculoskeletal disorders, 91 per cent effective.

In anxiety and tension states, 93 per cent effective.

Lower incidence of side effects than with zoxazolamine, methocarbamol or meprobamate.

No known contraindications. Blood pressure, pulse rate, respiration and digestive processes unaffected by therapeutic dosage. No effects on hematopoietic system or liver and kidney function.

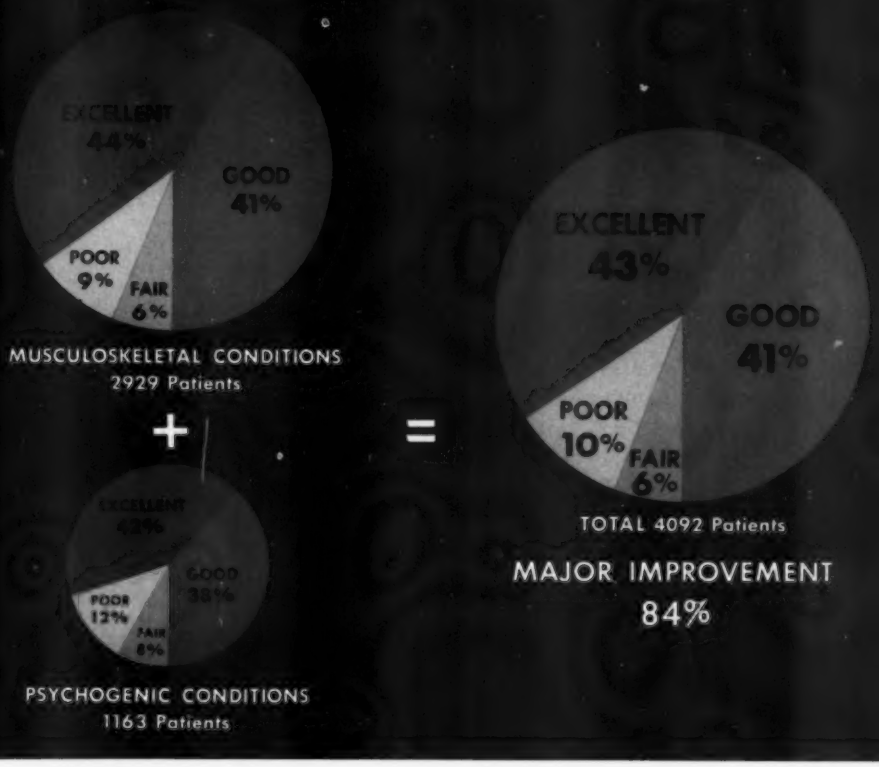
Low toxicity. In animals, even less toxic than aspirin.

No gastric irritation. Can be taken before meals.

No clouding of consciousness, no euphoria or depression.

No perceptible soporific effect, even in high dosage.

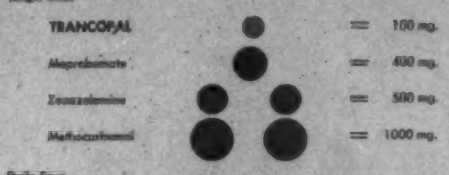
CLINICAL RESULTS IN 4092 PATIENTS



Compare Trancopal with 3 widely used central relaxants

FOR ACTIVITY

Single Dose

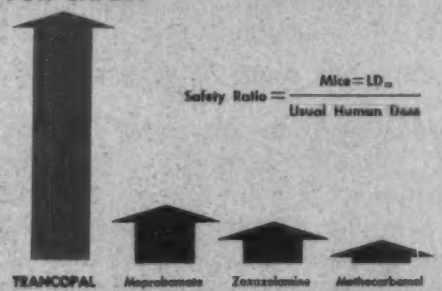


Daily Dose
Same as above, t.i.d.

Considering the usual human dose, Trancopal, the first true "tranquilaxant," is four to ten times as potent per milligram.

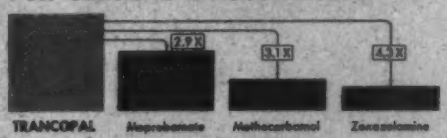
FOR SAFETY

$$\text{Safety Ratio} = \frac{\text{Mice} = LD_{50}}{\text{Usual Human Dose}}$$



Comparative pharmacologic tests showed that Trancopal is up to thirteen times as safe, or up to thirteen times less toxic. The measure of safety was the LD_{50} in mice/usual human dose.

FOR CLINICAL EFFECTIVENESS



A clinical comparison in low back pain, torticollis, bursitis and anxiety states showed that Trancopal is up to four times as effective. Each of 40 patients received all four drugs in random rotation for several days. While each of the four drugs gave some relief, only the one providing the most effective relief was recorded.

INDICATIONS

Musculoskeletal
- Low back pain (lumbago)
- Neck pain (torticollis)
- Bursitis
- Rheumatoid arthritis
- Osteoarthritis
- Disc syndrome
- Fibrositis
- Joint disorders (ankle sprain, tennis elbow, etc.)
- Myositis
- Postoperative myalgias

Psychogenic
- Anxiety and tension states
- Dysmenorrhea
- Premenstrual tension
- Asthma
- Emphysema
- Angina

Neurologic
- Muscle spasm in paralysis agitans, multiple sclerosis, hemiplegia, poliomyelitis

TRANCOPAL thoroughly evaluated clinically

"In the treatment of conditions associated with skeletal muscle spasm there was a high percentage of satisfactory results (excellent, good or fair) in 310 patients (94%) out of 331 treated. . . . In 120 patients with simple anxiety or tension states results were satisfactory in 114 (95%). Dosage of chlormethazanone in all cases was 100 mg. t.i.d. As well as relieving the anxiety or tension state, chlormethazanone also allowed these patients to resume their usual occupations." (Lichtman)

Trancopal

the first true "TRANQUILAXANT"

Dosage: One Caplet (100 mg.) orally three or four times daily. Relief of symptoms occurs in fifteen to thirty minutes and lasts from four to six hours.

Supplied: Trancopal Caplets® (scored) 100 mg., bottles of 100.

Winthrop Laboratories • New York 18, N. Y.

• Baker, A. B.: Modern Med. 26:140, April 15, 1956. • Cohen, A. I.: In preparation. • Cooperative Study, Department of Medical Research, Winthrop Laboratories. • Gesler, R. M., and Coulston, F.: Toxicol. & Appl. Pharmacol. To be published. • Gesler, R. M., and Surrey, A. R.: J. Pharmacol. & Exper. Therap. 122:24A, Jan., 1958. • Gesler, R. M., and Surrey, A. R.: J. Pharmacol. & Exper. Therap. 122:517, April, 1958. • Lichtman, A. L.: Kentucky Acad. Gen. Pract. J. 4:28, Oct., 1958. • Surrey, A. R.; Webb, W. G., and Gesler, R. M.: J. Am. Chem. Soc. 80:3469, July 5, 1958.

Printed in U. S. A. 11-58 (3928)

If you were to examine these patients

could you detect the uveitis patient on Medrol*?

Probably not. Not without a history.

First, because he's more than likely symptom-free.

Second, because he shows none of the disturbing changes in appearance, behavior or metabolism sometimes associated with corticotherapy.

Even your practiced clinical eye would find it difficult to spot someone else's Medrol patient.

But in your own patients, you could see the advantages of Medrol right away. Why not try it?

Medrol hits the **disease,** but spares the **patient**

upjohn

Upjohn Company, Kalamazoo, Michigan

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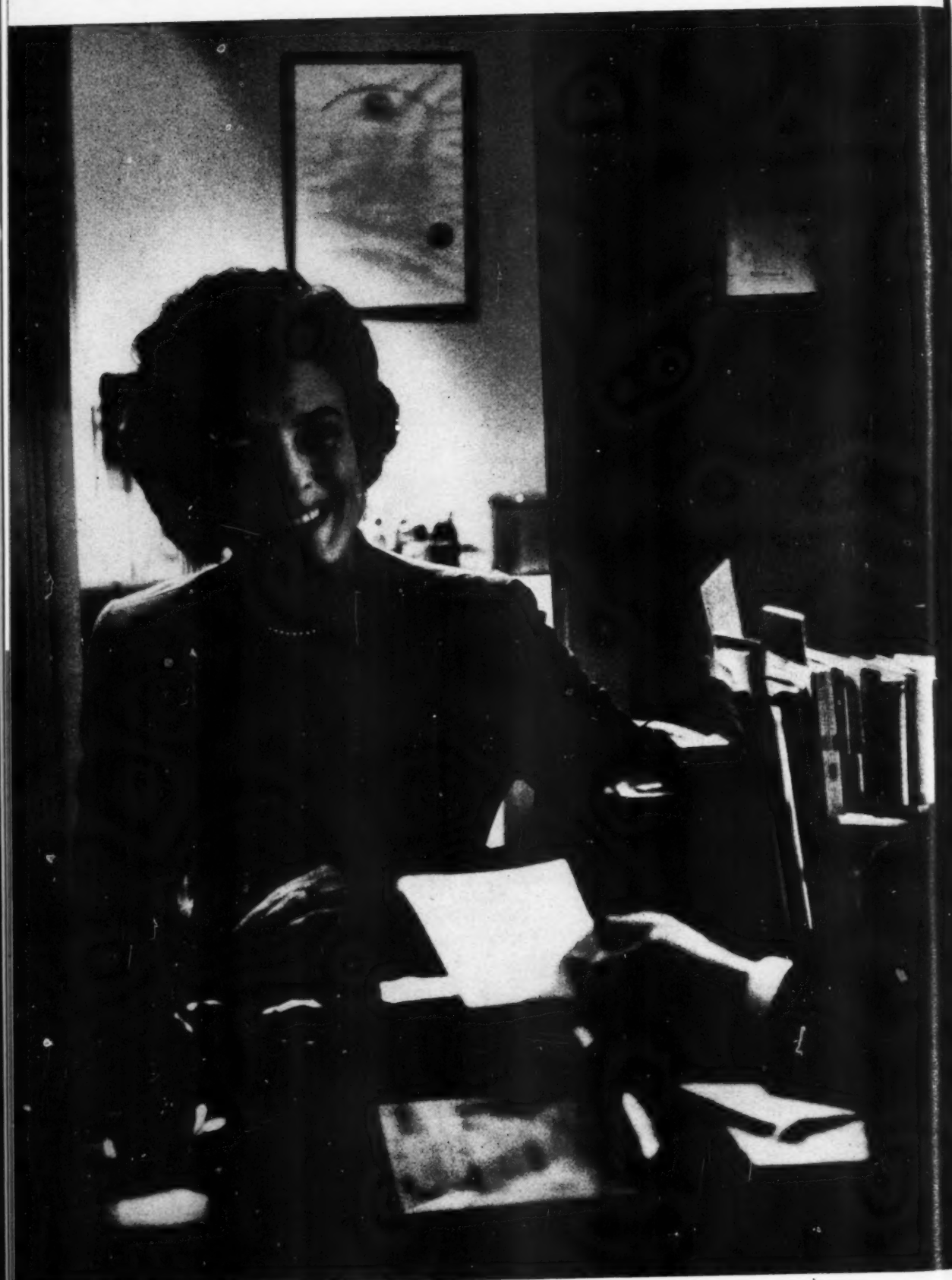

"Much better–thank you, doctor"

Proven in research

1. Highest tetracycline serum levels
2. Most consistently elevated serum levels
3. Safe, physiologic potentiation (with a natural human metabolite)

And now in practice

4. More rapid clinical response
5. Unexcelled toleration

COSA-TETRACYN*

GLUCOSAMINE-POTENTIATED TETRACYCLINE

CAPSULES
(black and white)
250 mg., 125 mg.
(for pediatric or long-term therapy)

ORAL SUSPENSION
(orange-flavored)
125 mg. per tsp. (5 cc.)
2 oz. bottle

NEW! PEDIATRIC DROPS
(orange-flavored) 5 mg. per drop, calibrated dropper, 10 cc. bottle

COSA-TETRASTATIN*

glucosamine-potentiated tetracycline with nystatin

Antibacterial plus added protection against monilial super-infection

CAPSULES (black and pink) 250 mg. Cosa-Tetracyn (with 250,000 u. nystatin)

ORAL SUSPENSION 125 mg. per tsp. (5 cc.) Cosa-Tetracyn (with 125,000 u. nystatin), 2 oz. bottle

COSA-TETRACYDIN*

glucosamine-potentiated tetracycline-analgesic-antihistamine compound

For relief of symptoms and malaise of the common cold and prevention of secondary complications

CAPSULES (black and orange)—each capsule contains: Cosa-Tetracyn 125 mg.; phenacetin 120 mg.; caffeine 30 mg.; salicylamide 150 mg.; buclizine HCl 15 mg.

REFERENCES: 1. Carlozzi, M.: Antibiotic Med. & Clin. Therapy 5:146 (Feb.) 1958. 2. Welch, H.; Wright, W. W., and Staffa, A. W.: Antibiotic Med. & Clin. Therapy 5:52 (Jan.) 1958. 3. Marlow, A. A., and Bartlett, G. R.: Glucosamine and leukemia, Proc. Soc. Exp. Biol. & Med. 84:41, 1953. 4. Shalowitz, M.: Clin. Rev. 1:25 (April) 1958. 5. Nathan, L. A.: Arch. Pediat. 75:251 (June) 1958. 6. Cornbleet, T.; Chesrow, E., and Barsky, S.: Antibiotic Med. & Clin. Therapy 5:328 (May) 1958. 7. Stone, M. L.; Sedlis, A., Bamford, J., and Bradley, W.: Antibiotic Med. & Clin. Therapy 5:322 (May) 1958. 8. Harris, H.: Clin. Rev. 1:15 (July) 1958.

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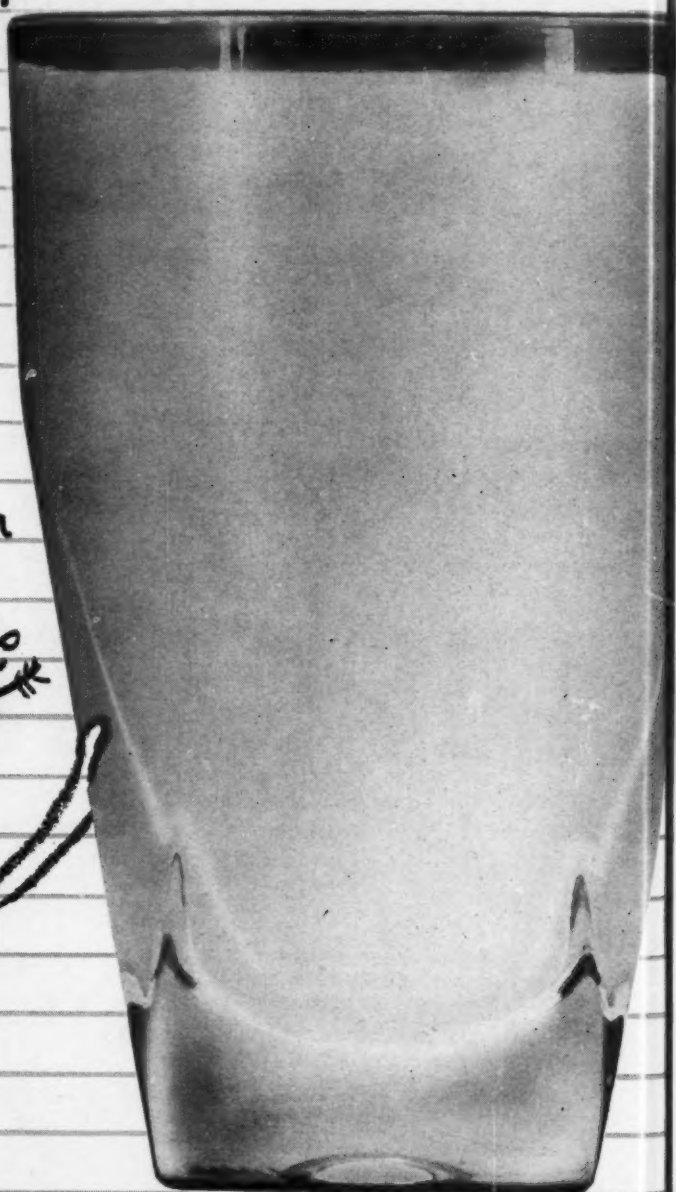

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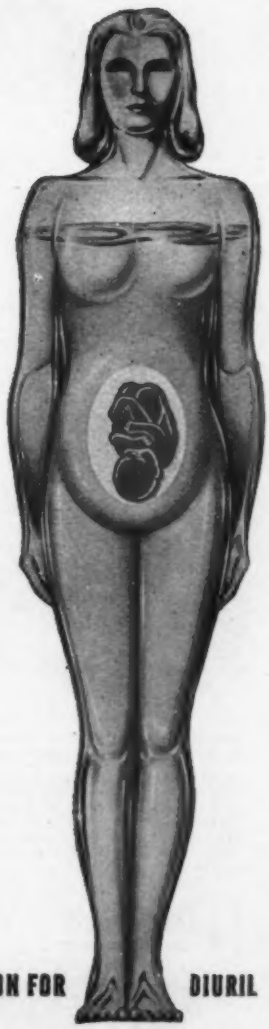
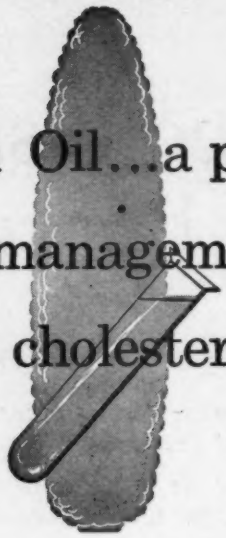
....caused an excellent diuresis, with reduction of edema, weight, blood pressure, and albuminuria...."



ANY INDICATION FOR DIURESIS IS AN INDICATION FOR DIURIL

Mazola® Corn Oil...a palatable food effective in the management and control of serum cholesterol levels



Extensive clinical tests show that when the diet contains an adequate amount of Mazola Corn Oil, serum cholesterol levels tend to be normal... high blood cholesterol levels are lowered, normal levels maintained.

Fortunately for both physician and patient, Mazola Corn Oil is not only rich in unsaturated fatty acids, it is also a delicious food. It becomes an enjoyable and normal part of the patient's daily meals—no complicated or special diet is required.

Here is a therapy easy for you to prescribe, easy and pleasant for your patients to follow.

Nutritional authorities generally recommend that fats should provide no more than 30% of the total calories. In cholesterol-lowering diets from one-third to one-half of these fats should be unsaturated, such as in Mazola Corn Oil.

IN COOKING OR SALADS

Mazola Corn Oil is a superlative cooking oil as well as a delicious salad oil. Adequate amounts can be eaten daily—in a wide variety of salad dressings and in a great number of fried and baked foods.

MOST EFFECTIVE

Pure, clear, bland and odorless. Mazola Corn Oil is stable and dependable, providing the full measure of cholesterol-lowering unsaturated fatty acids characteristic of corn oil.

ECONOMICAL

Mazola Corn Oil is sold in grocery stores throughout the country, is available everywhere. Its comparatively low cost makes it as economical as it is effective.

CORN PRODUCTS REFINING COMPANY

MAZOLA® CORN OIL is a rich source of unsaturated fatty acids. It can form a regular part of the diet without major changes in eating habits to provide an effective unsaturated oil as a part of the daily meals.

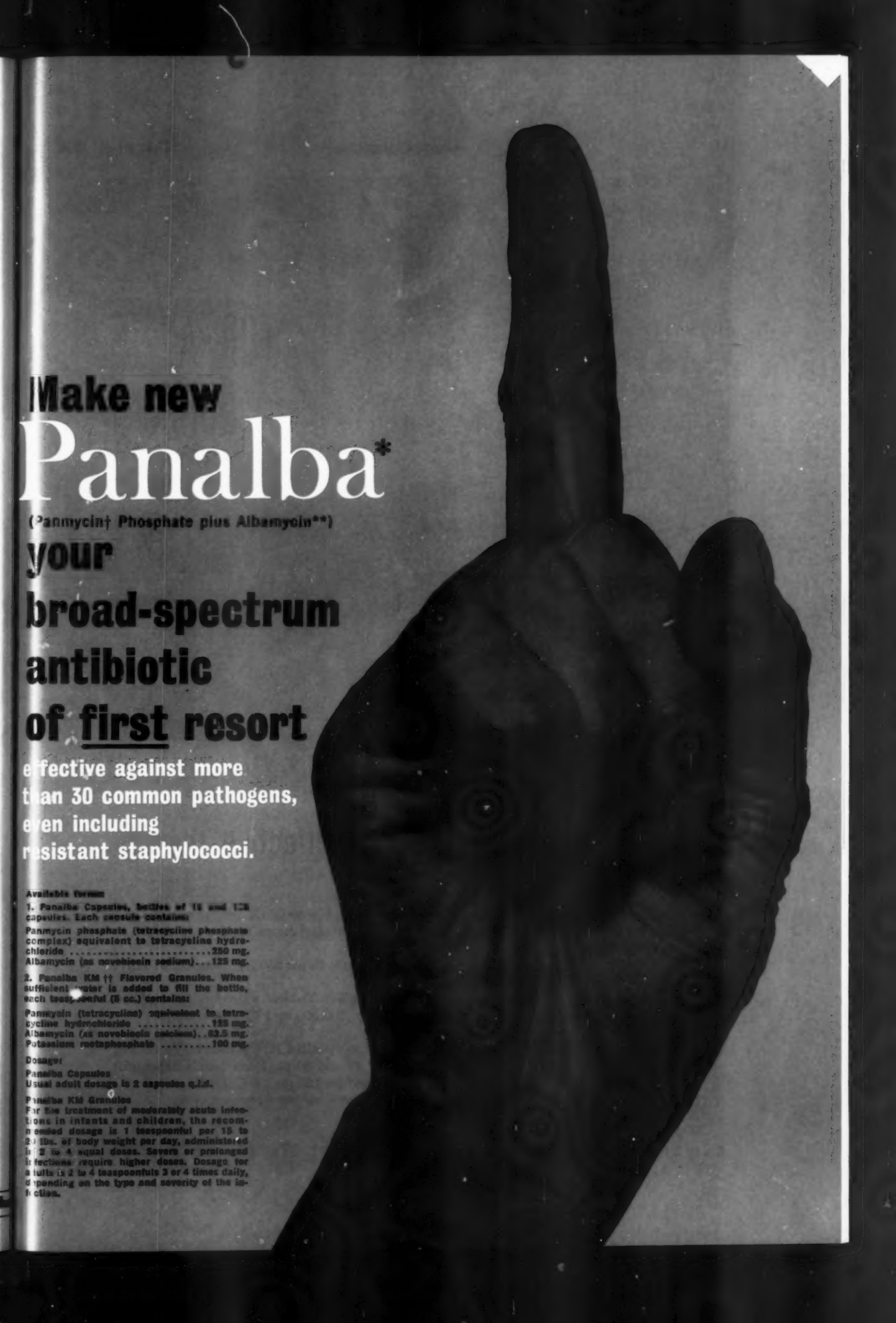
EACH TABLESPOONFUL OF MAZOLA CORN OIL PROVIDES NOT LESS THAN:

Linoleic Acid	7.4 Gm.
Sitosterols	130 mg.
Natural Tocopherols	15 mg.

TYPICAL AMOUNTS PER DIET

For a 3600 calorie diet	3 tablespoonsful
For a 3000 calorie diet	2.5 tablespoonsful
For a 2000 calorie diet	1.5 tablespoonsful

®Reg. U. S. Pat. Off.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broad-spectrum
antibiotic
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effective against more
than 30 common pathogens,
even including
resistant staphylococci.
Available forms
1. Panalba Capsules, bottles of 16 and 100 capsules. Each capsule contains:
Panmycin phosphate (tetracycline phosphate complex) equivalent to tetracycline hydrochloride .....250 mg.
Albamycin (as novobiocin sodium)...125 mg.
2. Panalba KM †† Flavored Granules. When sufficient water is added to fill the bottle, each teaspoonful (5 cc.) contains:
Panmycin (tetracycline) equivalent to tetracycline hydrochloride .....125 mg.
Albamycin (as novobiocin calcium)..62.5 mg.
Potassium metaphosphate .....100 mg.
Dosage:
Panalba Capsules
Usual adult dosage is 2 capsules q.i.d.
Panalba KM Granules
For the treatment of moderately acute infections in infants and children, the recommended dosage is 1 teaspoonful per 15 to 20 lbs. of body weight per day, administered in 2 to 4 equal doses. Severe or prolonged infections require higher doses. Dosage for adults is 2 to 4 teaspoonfuls 3 or 4 times daily, depending on the type and severity of the infection.

If you were to examine these patients

could you detect the asthmatic on Medrol*?

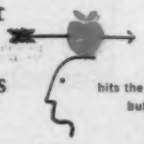
Probably not. Not without a history.

First, because he's more than likely symptom-free.

Second, because he shows none of the disturbing changes in appearance, behavior or metabolism sometimes associated with corticotherapy.

Even your practiced clinical eye would find it difficult to spot someone else's Medrol patient.

But in your own patients, you could see the advantages of Medrol right away. Why not try it?



Medrol hits the **disease,** but spares the **patient**

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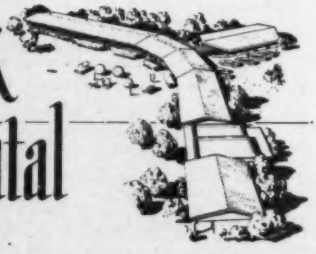

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